



601 W First Ave, Ste 1300 Spokane, WA 99201, USA 509.838.9020 mwengineers.com

SUBMITTAL COMMENT SHEET

PROJECT:

Argonne Library Early Procurement

PROJECT #:

2024.119.01

SUBMITTAL #:

DATE RECEIVED:

4/8/2025

DATE RETURNED:

4/15/2025

SPECIFICATION

262416 - Panelboards

SECTION:

REVIEWED BY:

Karl Anderson

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. The contractor is responsible for:

- ✓ Dimensions, which shall be confirmed and correlated at the project site.
- ✓ Fabrication processes and techniques of construction.
- ✓ Coordination of their work with that of all other trades.
- ✓ Satisfactory performance of their work.

GENERAL COMMENTS:

SPECIFICATION NUMBER	ITEM DESCRIPTION	ACTION TAKEN	COMMENTS
262416 Main Distribution Panelboard		, 1	

SUBMITTAL REVIEWED

SEE REVIEW COMMENTS IN ORANGE THROUGHOUT THE SUBMITTAL

MW Job Number: 2024.119.01 Project: Argonne Library Submittal Number:

26 24 16 - Panelboards

MW Engineers

By: Karl Anderson Date: 04/15/2025

Finance Diretor, Jason Wich Spokene Couly Elevany Diretoct

ACTION TAKEN:

1 - No Exceptions Taken

3 - Revise and Resubmit

2 - Make Corrections Noted

4 - Rejected







Kenny Clark North Coast Electric Company 4216 E MAIN AVE SPOKANE, WA 99202-4743 Kenneth.Clark@northcoast.com

Quote No.: UB3-00005261

Doc Rev. 0.1

Project: Argonne Library

PO No.: 0

Dear Valued Customer,

We are pleased to provide a submittal for Argonne Library. Please review the provided documentation and provide your approval. Thank you for allowing North Coast Electric Company to participate on this project. Please do not hesitate to contact us with any questions.

Best Regards,

Kenny Clark North Coast Electric Company

PROPRIETARY AND CONFIDENTIAL INFORMATION

This document contains confidential and proprietary information. Upon receipt of this document, the receiver agrees to not to reveal its content, except to those people inside of their own organization to who concerned to do the evaluation of this proposal. No copies of this document should be made without permission. This document shall be returned upon its written request.





Equipment Submittal

Project: Argonne Library
Quote No.: UB3-00005261

Doc Rev No.: 0.1
PO No.: 0
Date Issued:

Prepared by: Kenny Clark, North Coast Electric Company

Notice

These drawings represent our best interpretation and compliance with the intent of your requirement. Drawings marked "approved" or "approved as noted" authorize the manufacturer to proceed with manufacturing. Product revisions not in the contract or items specified but not noted on the returned drawings which may require modification to be made after drawing approval and during or after completion of manufacturing may result in a price change and/or shipment delay.

Dimensions and weights shown are approximate until all design parameters are approved. It is recommended to not install conduit equipment pads, etc. until after the approval process is complete and any changes to the drawings submitted are accurately updated and issued accordingly.

This document contains confidential and proprietary information. Upon receipt of this document, the receiver agrees to not to reveal its content, except to those people inside of their own organization to who concerned to do the evaluation of this proposal. No copies of this document should be made without permission. This document shall be returned upon its written request.





Table of Contents

Introduction	1
Cover Letter	1
Cover Page	
Notes	4
Summarized Bill of Material(s)	5
Panel Summary Report	
Bill of Material(s) - All Items	7
Publication(s) List	
Panelboard	11
Section Title Page	11
Product Notes	12
Bill of Material(s)	13
Drawing(s)	16
Publication(s)	20
Terms And Conditions	136
Terms And Conditions	136
Schedule 1 ABB Inc General Terms & Conditions of Sale	





Notes Project Level - Notes





Summarized Bill of Material(s)

Quantity	Description	Item(s)	Mark(s)
2	Panelboard	1	MSB-PNL
		3	MSB PNL 2





Argonne Library

UB3-00005261 | Argonne Library - Kirk Key

Panel Summary Report

Item	Qt	y Marks	Sect Type	Service	Ckts	Feed	Mounting	Main	Bus/Trip	CU/AL	Incoming Cable Size/Qty	AIC	Box	Layout Meter
1	1	MSB-PNL	neXT	208 3P4W	0	Bottom	Surface	МСВ	800/800	AL	1-lug/phase 4-cable/lug 4/0 - 500 MCM	35K	ER9640B	Specified Line,RGM
3	1	MSB_PNL_2	neXT	208 3P4W	18	Bottom	Surface	МСВ	800/800	AL	1-lug/phase 4-cable/lug 4/0 - 500 MCM	35K	ER9640B	Specified





Bill of Material(s)

Item No. Quantity Description

1 1 Power Panelboard, ReliaGear neXT

Marks: MSB-PNL

1 Section(s), Nema 1 Enclosure

800 Amps, 3 Phase 4 Wire 208Y/120V, 50/60 Hz Minimum Interrupt Rating: 35kA Fully Rated

Incoming Feed: Bottom

Surface Mounted UL67 Certified

Height: 96 Inches; Width: 40 Inches; Depth: 11 Inches; Est. Weight: 579 lbs

- 800 Amps Main Breaker XT7HU380CFFW007GXX
- 1 Ekip Dip LSI

1

1 Kirk lock provision

Vert. XT7 (4) 4/0-500 mcm, With FTL #2-500 mcm

Main Option Details

- 1 Feed Thru Lugs
- 1 Aluminum Bus Heat Rated
- 1 100% Rated Neutral
- 1 NEMA 1 Enclosure

Feeders

- 2 Breaker Space Device 200 Amps 3 Poles XT4NU3200AYJ000XXX
- 2 TMF
- 2 (1) 4 AWG-300 MCM
- 1 Ground: GDBG49A7
- 1 Interior Bus Stack: IN2408BF3H1
- 1 Neutral: NL12I0NST12A7
- 1 Enclosure: ER9640B
- 1 Interior Frame: IF2440F
- 1 Front 1 of 3: FT40S00270
- 1 Front 2 of 3: FT40VM0330
- 1 Front 3 of 3: FT40VF0100
- 1 Vertical Main Kit: VMXT73PS
- 1 Gutter Covers: GC40F24BFA
- 1 WirePost: BP40F
- 1 Surge Protection: SP120Y12X402
- 1 Vertical Main Rail Kit: VMR40F
- 6 Main Brkr with FTL Kit: LGML260A
- 1 CT Meter Kit: MTA0308CT
- 1 Meter Mntng Kit 40F: MT40FMMK





Bill of Material(s)

		• •	
Item No.	Quantity	Desci	ription
		1	BacNet/IP+DL PQ Waveform (RGM40V6BX): RGM40V6BX
		1	1X Blank only: SR01BB
		1	2X Filler & Blank: SR02BF
		5	3X Blank only: SR03BB
		1	Circuit Directory Kit, Plastic: RGRPCDKP
		1	PPXT BULK INT
		1	PPXT BULK BOX
3	1	Powe	er Panelboard, ReliaGear neXT
		Mark	s: MSB_PNL_2
			1 Section(s), Nema 1 Enclosure
			800 Amps, 3 Phase 4 Wire 208Y/120V, 50/60 Hz
			Minimum Interrupt Rating: 35kA Fully Rated
			Incoming Feed: Bottom
			Surface Mounted
			UL67 Certified
			Height: 96 Inches; Width: 40 Inches; Depth: 11 Inches; Est. Weight: 581 lbs
		1	800 Amps Main Breaker XT7HU380CFFW007GXX
		1	Ekip Dip LSI
		1	Kirk lock provision
			Vert. XT7 (4) 4/0-500 mcm, With FTL #2-500 mcm
			Main Option Details
		1	Feed Thru Lugs
		1	Aluminum Bus Heat Rated
		1	100% Rated Neutral
		1	NEMA 1 Enclosure
			Feeders
		5	Breaker Device 200 Amps 3 Poles XT4NU3200AYJ000XXX
		5	TMF
		5	(1) 4 AWG-300 MCM
		1	Breaker Device 400 Amps 3 Poles XT5NU340ABYN000XXX
		1	TMA
		1	(2) 2/0 AWG - 500 MCM
		1	Breaker Space Device 400 Amps 3 Poles XT5NU340ABYN000XXX
		1	TMA

Breaker Space Device 200 Amps 3 Poles XT4NU3200AYJ000XXX

(2) 2/0 AWG - 500 MCM

1 1

1

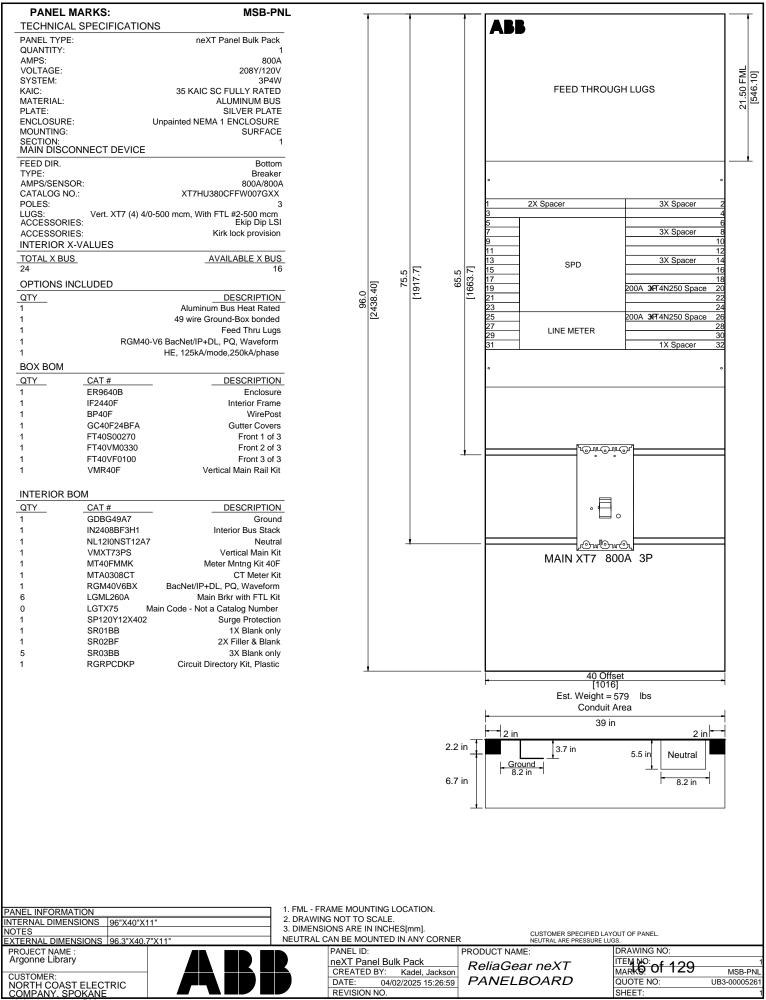
TMF





Bill of Material(s)

	` ′	
Item No. Quantity	Desci	ription
	1	(1) 4 AWG-300 MCM
	1	Ground: GDBG49A7
	1	Interior Bus Stack: IN2408BF3H1
	1	Neutral: NL12I0NST12A7
	1	Enclosure: ER9640B
	1	Interior Frame: IF2440F
	1	Front 1 of 3: FT40S00270
	1	Front 2 of 3: FT40VM0330
	1	Front 3 of 3: FT40VF0100
	1	Vertical Main Kit: VMXT73PS
	1	Gutter Covers: GC40F24BFA
	1	WirePost: BP40F
	1	Vertical Main Rail Kit: VMR40F
	6	Main Brkr with FTL Kit: LGML260A
	1	1X Blank only: SR01BB
	3	2X Filler & Blank: SR02BF
	2	3X Filler & Blank: SR03BF
	1	Circuit Directory Kit, Plastic: RGRPCDKP
	1	PPXT BULK INT
	1	PPXT BULK BOX



4/4/2025 3:20:17 PM

SAP ORDER:

neXT Device Information

Х		Sensor		Phases				
Space	Breaker Catalog Number	Amps	Amps	Trip Unit	Poles	Used	Lug Cable Size/Neut Sensor/Grnd Fault Cable	Notes
Main	XT7HU380CFFW007GXX	800	800	Ekip Dip LSI	3	A,B,C	(4) 4/0 AWG - 500 MCM	2
20	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	3
26	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	3

NOTES:

NEMA1 enclosure provided will be unpainted.
 Device is furnished with Kirk lock provision
 This is a breaker space - breaker is not included

PROJECT NAME : Argonne Library

CUSTOMER: NORTH COAST ELECTRIC COMPANY, SPOKANE 4/4/2025 3:20:17 PM

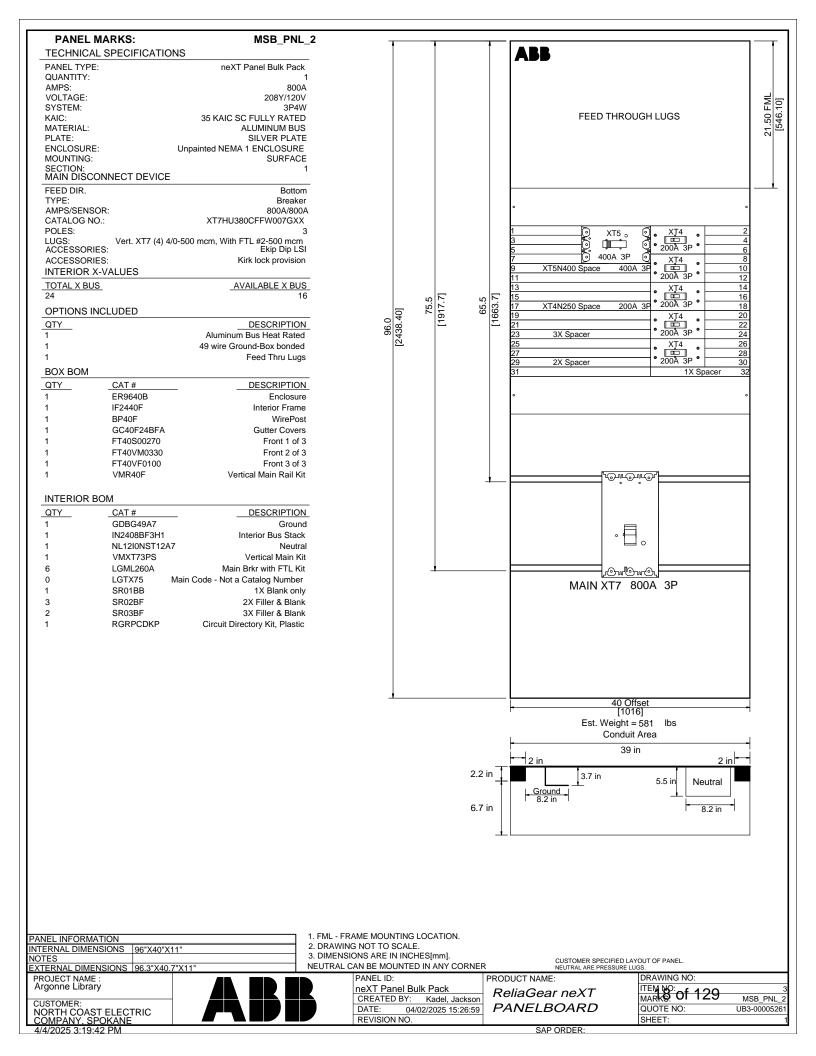


neXT Panel Bulk Pack
CREATED BY: Kadel, Jackson
DATE: 04/02/2025 15:26:59
REVISION NO.

PRODUCT NAME:

ReliaGear neXT **PANELBOARD** DRAWING NO: ITEM NO: MARKS: Of 129

MSB-PNL UB3-00005261 QUOTE NO: SHEET:



neXT Device Information

Х		Trip	Sensor			Phases		
Space	Breaker Catalog Number	Amps	Amps	Trip Unit	Poles	Used	Lug Cable Size/Neut Sensor/Grnd Fault Cable	Notes
Main	XT7HU380CFFW007GXX	800	800	Ekip Dip LSI	3	A,B,C	(4) 4/0 AWG - 500 MCM	2
1	XT5NU340ABYN000XXX	400	-	TMA	3	ABC	(2) 2/0 AWG - 500 MCM	
2	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	
8	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	
9	XT5NU340ABYN000XXX	400	-	TMA	3	ABC	(2) 2/0 AWG - 500 MCM	3
14	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	
17	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	3
20	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	
26	XT4NU3200AYJ000XXX	200	-	TMF	3	ABC	(1) 4 AWG-300 MCM	

NOTES:

- NEMA1 enclosure provided will be unpainted.
 Device is furnished with Kirk lock provision
 This is a breaker space breaker is not included

PROJECT NAME : Argonne Library

CUSTOMER: NORTH COAST ELECTRIC COMPANY, SPOKANE 4/4/2025 3:19:42 PM



PANEL ID:

neXT Panel Bulk Pack
CREATED BY: Kadel, Jackson
DATE: 04/02/2025 15:26:59
REVISION NO.

PRODUCT NAME:

ReliaGear neXT **PANELBOARD** DRAWING NO: ITEM NO: MARKS! Of 129 QUOTE NO: MSB_PNL_2 UB3-00005261 SHEET:

Introduction

The ReliaGear™ neXT surge protective device (SPD) plug-in module uses the ABB TPME and TPHE integrated SPDs. The TPME and TPHE SPDs are UL 1449 listed, and the ReliaGear neXT SPD plug-in module is a UL 67 recognized component.

ABB SPDs are engineered for reliability, flexibility and long life in the most extreme surge environments. The true maximum surge current rating has been proven successful in third-party tests. These SPD models connect to the panelboard or switchboard bus stacks, occupying 10X of bus space. In power panels, SPDs are offered only in 40" and 45" wide enclosures (not available in 30" wide enclosures). In switchboards, the minimum section widths for SPDs are 35" wide one-sided configuration or 40" wide two-sided configuration (see 1VAL088301-TG SWBD technical application guide for more details). TPME and TPHE SPDs are UL 1449 listed SPDs and third-party tested per IEEE C62.62 and NEMA LS-1 for the rated 8x20 µs surge current per mode with fusing included. Standard features include a surge counter, audible alarm, indicating lights and dry contacts. Rating options range from 65 kA per mode to 300 kA per mode. All mode protection is provided with surge components (MOVs) connected on the phase-to-neutral, phase-to-ground and neutral-to-ground paths as appropriate for the voltage configuration.



Surge protective devices

The SPD module is a plug-in accessory to be installed on the bus stack.

Available in different configurations according to system voltage, impulse current and type:

System voltage	120 V AC Wye,
	277 V AC Wye,
	347 V AC Wye,
	480 V AC Delta
Minimum 8 x 20 μs single impulse surge current	65 kA, 80 kA,
(per mode)	125 kA, 150 kA,
	200 kA, 300 kA
UL 1449 SPD type	Type 1
	Type 2

Features and benefits

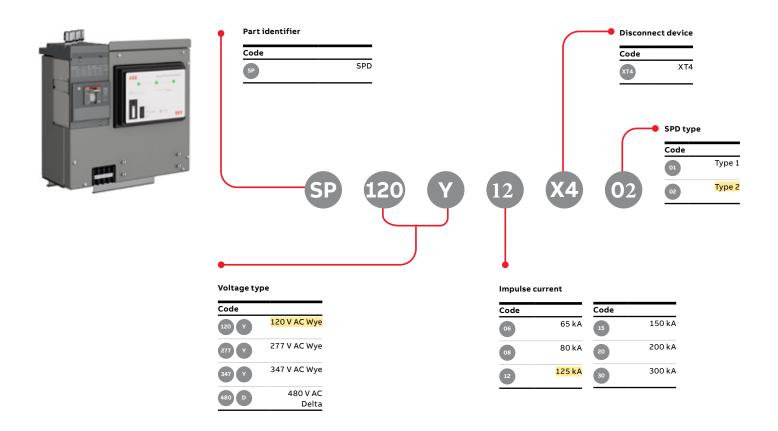
- UL 67 recognized module with an integrated UL 1449, Type 1, Type 2 SPD
- cUL, CSA C22.2
- Standard features include a surge counter, audible alarm, indicating lights and dry contacts
- · Occupies 10X of space
 - Power panels: In 40" and 45" wide enclosures (not available in 30" wide enclosures)
 - Switchboards: Minimum section width = 35" wide onesided configuration OR 40" wide two-sided configuration
- Thermally protected MOV design eliminates the need for additional upstream over-current protection

Technical characteristics/data

Connection method	XT4 disconnect connected to ReliaGear bus stack through line-side connector (LSC)
Operating temperature	-13 °F to 149 °F (-25 °C to 65 °C)
Weight	35 lbs. (15.9 kg)
Dimensions (LxHxW)	15.25 in x 7.94 in x 13.84 in (387.60 mm x 201.67 mm x 351.53 mm)

Surge protective device (SPD), UL 67 recognized module

Refer to the following catalog number selection and cross reference guide to understand which UL 1449 SPD (TPXX prefix) is integrated into the UL 67 recognized ReliaGearTM neXT plug-in SPD module (SP prefix).



TPME and **TPHE** surge protective devices

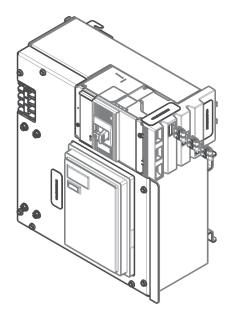
Performance and ratings

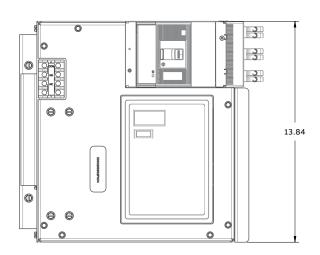
Performance data

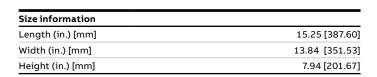
Model number	Protection mode	MCOV	VPR	IEEE Cat. B3 100 kHz / 500 A	IEEE Cat. B3 C1 6 kV/3 kA	IEEE Cat. C3 20 kV/10 kA
TPME120S	L-L	300	1200	752	844	1007
TPHE120S	L-N	150	900	470	600	793
	L-G	150	800	463	485	670
	N-G	150	700	452	476	680
TPME277Y	L-L	640	2000	1340	1597	1827
TPHE277Y	L-N	320	1500	727	1053	1170
	L-G	320	1200	800	893	1073
	N-G	320	1200	792	880	1180
TPME347Y	L-L	840	2500	1723	2020	2220
TPHE347Y	L-N	420	1500	883	1187	1467
	L-G	420	1500	1000	1113	1240
	N-G	420	1500	1000	1120	1240
TPME480D	L-L	1110	3000	1800	2647	2933
TPHE480D	L-N	-	-	-	-	_
	L-G	550	1800	1223	1407	1607
	N-G	-	-	-	-	-

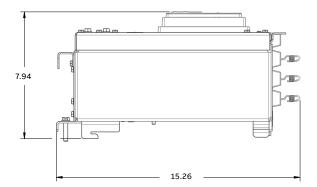
ReliaGear™ neXT SP module

Dimensions











BROCHURE

RGM40 — Compact DIN rail mounted energy and power quality meter



The RGM40 is one of the smallest energy and power quality meters in the world. It was designed specifically for DIN rail installation where space is at a premium.

The meter provides 0.2% class energy accuracy and advanced power quality features. These include recording PQ waveform events at up to 512 samples per cycle and harmonic readings to the 40th order.

The RGM40 meter has extensive memory for storing load profiles, system events, limits and alarms. It has either RS485 or Ethernet communication that brings data back to existing software for energy analytics and predictions. The meter is compatible with MV90 and many different power monitoring software systems.

The RGM40's voltage measurement range is up to 576 V L-N; current inputs can be ordered for 333 mV current transformers. It has a separate power input connection and utilizes an extended range power supply with voltage up to 300 V AC, eliminating the need for a separate control power transformer. The RGM40 is ideal for machine-level monitoring, solar, wind and other applications with limited installation space.



Features

- Compact DIN rail mounted meter designed for small footprint applications
- Meets ANSI C12.20 0.2 accuracy class
- Power quality features include waveform recording at 512 samples/cycle and harmonic analysis
- Extensive memory for storing load profiles, system events and limits/alarms
- · System events log and passwords for security
- Modbus, BACnet/IP or DNP3 for easy software integration
- RS485 or 10/100BaseT Ethernet communication

Applications

- · Machine-level monitoring
- · Power quality metering
- Energy management
- · Commercial submetering
- · Cost allocation and sub-billing
- · Industrial metering
- · Medical equipment monitoring
- Solar/wind/micro-turbine power generation metering
- · Applications where installation space is limited
- Compatible with MV90 and SCADA applications
- Supports 333 mV CT applications

Advanced revenue meter

01 Historical trending

02 Power quality log

- ANSI C12.20 0.2 accuracy class
- Traceable watt-hour test pulse
- · Utility block and rolling average demand
- · Historical load profiling
- Transformer and line loss compensation
- CT/PT compensation
- Line frequency time sync
- Sealable voltage and current inputs

Measured		
parameters	Accuracy	Display range
Voltage L-N	0.1%	0–9999 scalable V or kV
Voltage L-L	0.2%	0–9999 scalable V or kV
Current	0.1%	0–9999 A or kA
±Watts	0.2%	0–9999 W, kW, MW
±Wh	0.2%	5 to 8 digits programmable
±VARs	0.2%	0–9999 VARs, kVARs, MVARs
±VARh	0.2%	5 to 8 digits programmable
VA	0.2%	0–9999 VA, kVA, MVA
VAh	0.2%	5 to 8 digits programmable
PF	0.2%	±0.5 to 1.0
Frequency	±0.01 Hz	45 to 65 Hz
THD	±2.0%	1 to 99.99%

Note: Applies to 3-element Wye and 2-element Delta connections. See full accuracy specifications in the RGM40 Meter User Manual. Neutral current 2% accuracy.

Extensive data logging capability (V2 & higher) Historical logs:

- Three assignable historical logs
- Independently programmed trending profiles
- Up to 64 parameters per log
- Real time clock for timestamping



System events log

To protect critical billing information, the meter records and logs the following with a timestamp:

- · Demand resets
- · Password requests
- · System startup
- · Energy resets
- · Critical data repairs
- · Log resets
- Log reads
- Programmable settings changes

Power quality log

- · Provides magnitude and duration of an event
- · Includes timestamps and alarm value
- 2,048 events available



02

Limit alarms (V6 option)

Limit events:

- Up to eight limits
- Voltage imbalance
- · Current imbalance
- · Based on % of full scale settings



Power quality measurement

03 Power quality event

Waveform recording

The RGM40 meter records at up to 512 samples per cycle for a voltage sag or swell or a current fault event. The unit provides pre- and post-event recording capability.

	Samples per cycle	Pre-event cycles	Post-event cycles	Max. waveform per event
V6	256	2	6	16
	512	1	3	8

Note: Sampling rate is based on 60 Hz systems. For 50 Hz systems, multiply by 1.2

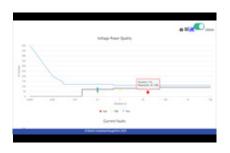
The meter's advanced DSP design allows power quality triggers to be based on a $\frac{1}{2}$ cycle updated RMS. Store up to 170 events in the meter's FIFO buffer.



__ 03

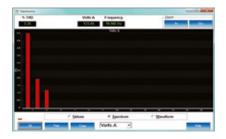
Independent CBEMA (or SEMI F47) log plotting

The meter stores an independent CBEMA or SEMI F47 log for magnitude and duration of voltage events. This lets you quickly view total surges, total sags and duration, without retrieving waveform data.



Harmonic recording to the 40th order

The RGM40 meter provides advanced harmonic analysis to the 40th order for each voltage and current channel, in real time. Using the stored waveforms, harmonic analysis is available to the 255th order.



Standard, basic and advanced options

Features	V1	V2	V6
Multifunction measurement	√	√	√
Basic data logging		√	
Advanced data logging			√
Harmonic analysis			√
TLC and CT/PT compensation	√	√	√
Limit functions			√
512 samples per cycle waveform recorder			√

V6 is only available on power panel.

Specifications

Voltage inputs

- Absolute range: 20–576 volts line to neutral (300 V max. per UL 61010-1), 0–721 volts line to line (600 V max. per UL 61010-1)
- Input withstand capability meets IEEE C37.90.1 (surge withstand capability)
- · Programmable voltage range to any PT ratio
- Supports: 3-element Wye, 2.5-element Wye, 2-element Delta, 4-wire Delta systems
- · Burden:
- Input impedance: $4 M\Omega$ per phase
- 0.36 VA/phase max. at 600 volts, 0.014 VA at 120 volts
- Input wire gauge: #14–26 AWG/0.129–2.08 mm²

Current inputs

- For mV input 333 mV secondary output, which equals 5 A
- Fault current withstand (at 23 °C): 100 A for 10 seconds
- Continuous current withstand: 20 A
- Programmable current to any CT ratio
- Burden 0.005 VA per phase max. at 11 A
- · Pickup current: 0.1% of nominal

Isolation

 All inputs and outputs are galvanically isolated to 2500 volts

Environmental rating

- Storage: -20 to +70 °C
- Operating: -20 to +70 °C (UL evaluated to 65 °C)
 Humidity: to 95% RH non-condensing
- · Protection: IP 30 (front and back)

Sensing method

- True RMS
- Sampling at over 400 sample/cycle on all channels of measured readings, simultaneously
- · Harmonics resolution to 40th order
- Waveform recording at up to 512 samples/cycle

Update rate

- Watts, VAR and VA every 6 cycles
- · All other parameters every 60 cycles

Power supply

- 90-300 V AC
- · VA rating: 10 VA max.; 8 VA nominal

Standard communication format

- 2 com ports
 - RS485 serial
 - Micro USB
- Com port baud rate: 1200-57600
- Comport address: 1-247
- 8 bit, parity setting: odd, even, none
- Serial Modbus ASCII/RTU, DNP3 (RS485)
- 10/100BaseT Ethernet Modbus TCP/IP (INP10 option)
- 10/100BaseT BACnet/IP (INP10B option)

Dimensions and shipping

- Weight: 2 lbs /0.9 kg
- Basic unit: 4.60"H x 4.89"W x 2.44"L
- DIN rail: top hat 1.38"W x 0.30"H (3.50 cm x 0.75 cm); slotted steel 3.00" (7.62 cm)

Accuracy

• See page 3

Note: For 2.5-element programmed units, degrade accuracy by an additional 0.5% of reading.

Note: For 1A (Class 2) nominal, degrade accuracy to 0.5% of reading for watts and energy; all other values 2 times rated accuracy.

Compliance

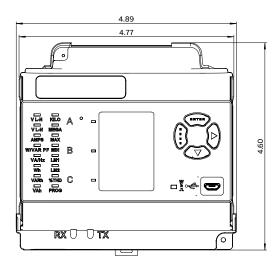
- ANSI C12.20 2015 0.2 CL and ANSI C12.1
- IEC 62053-22 0.2S
- Certified to UL/IEC 61010-1 and CSAC22.2
 No. 61010-1, UL File: E250818*
- CE marked

^{*}Third-party lab tested

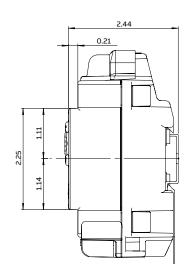
Dimensional drawings

04 RGM40 front dimensions

05 RGM40 side



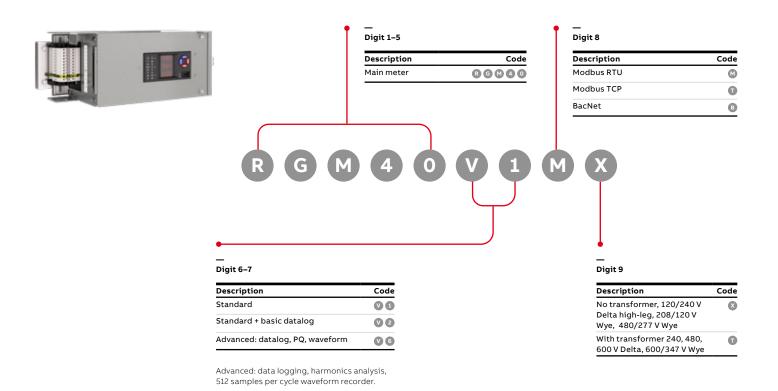
_ 04



— 05

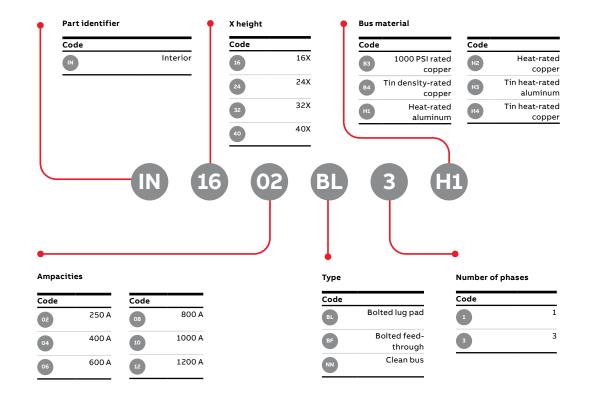
Ordering information, ReliaGear™ neXT power panel only

Power panel RGM40 nomenclature



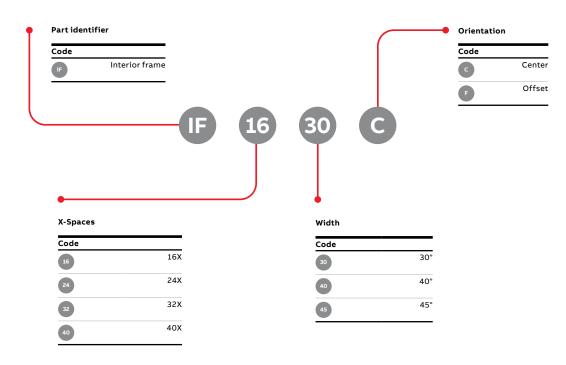
Bus stack





Interior frame

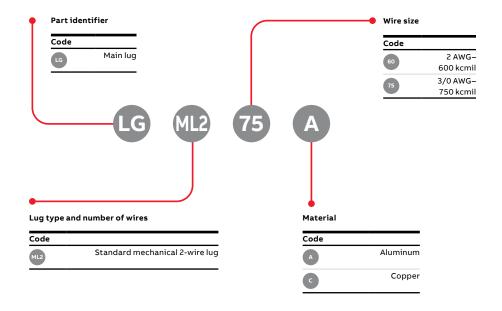




Main lugs — Mechanical



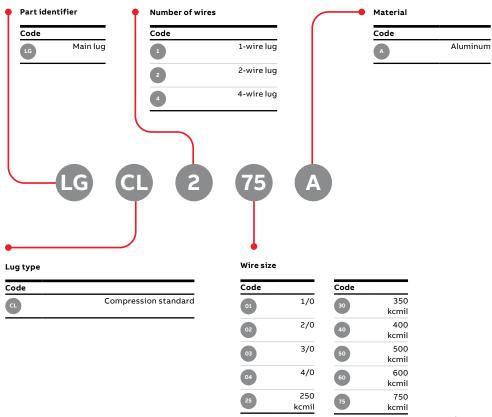
Note: * Each catalog contains a single lug. The quantity should be multiplied by the number of phases (2X for single phase, 3X for 3 phase, and the quantity is doubled if feedthrough is needed). Also, this total quantity should be multiplied by 2 if there are 2 lugs needed per phase.



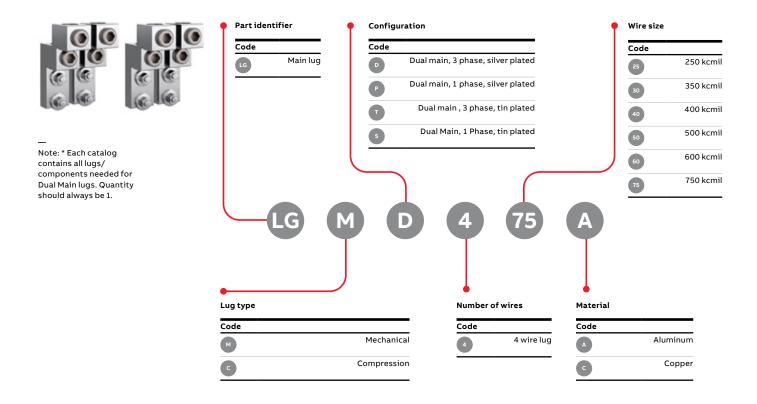
Main lugs — Compression



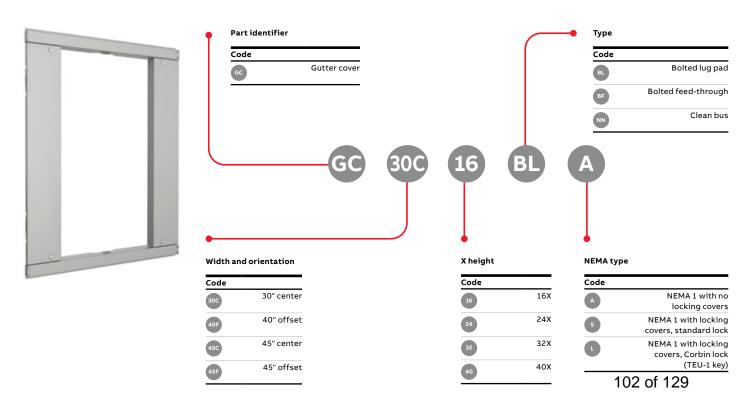
Note: * Each catalog generally contains the lugs for a single phase. The quantity should be multiplied by the number of phases (2X for single phase, 3X for 3 phase, and the quantity is doubled if feedthrough is needed).



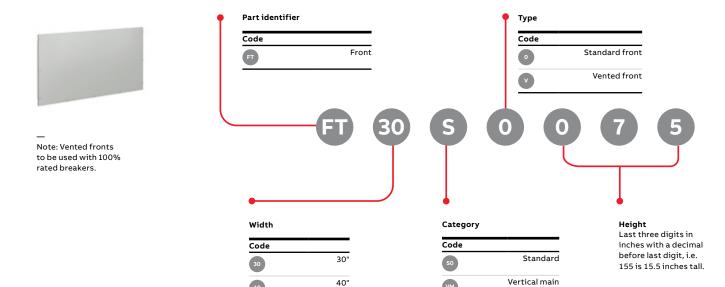
Main lugs — Dual



Gutter covers



Fronts



45"

frame

XT5

XT6

XT7

RELT

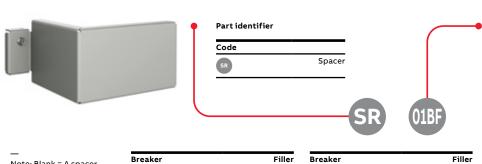
SPD

Metering

Submetering 9X

Submetering 14X

Fillers and blanks



Note: Blank = A spacer to fill the area occupied by a circuit breaker when plugged into the interior bus stack.

Filler = A spacer to fill the area between a plugged-in circuit breaker and the gutter.

Breaker	Filler
frame	needed
TEY 1 Pole	SR01EF
FB 1 Pole	SR01EF
TEY 2 Pole	SR02EF
FB 2 Pole	SR02EF
Single XT1	SR1XEF
Two XT1 group mount	SR2XEF
Five XT1 group mount	SR5XEF
XT2/XT4	SR03EF

Note: Tmax XT MCCBs for ReliaGear neXT power panelboards and ReliaGear SB switchboards come with filler plates when ordered separately, except XT1. Tmax XT1 circuit breakers require a rail to mount in ReliaGear neXT power panelboards and ReliaGear SB switchboards. This rail and associated hardware comes standard with the different spacer options. See table below for details on which XT1 group-mount rail kit is required.

	30"	40"	40"	45"	45"	45"
	center	offset left	offset right	center	offset left	offset right
Single XT1	SR1XBR	SR1XBF	SR1XBR	SR1XBF	SR1XBF	SR1XBR
Two XT1 group-mount	SR2XBR	SR2XBF	SR2XBR	SR2XBF	SR2XBF	SR2XBR
Five XT1 group-mount	SR5XBR	SR5XBF	SR5XBR	SR5XBF	SR5XBF	SR5XBR

Code		Code	
01AF	1X Accessory blank and filler XT4	09MF	9X Submetering filler
01AB	1X Accessory blank XT4	10SF	10X SPD filler
01BF	1X Blank and filler	14MF	14X Submetering filler
01BB	1X Blank only	TIBB	XT1 Blank only
DICF	1X Accessory blank and filler XT2	1XBB	Single XT1 blank only
D1CB	1X Accessory blank XT2	1XBF	Single XT1 blank, rail and filler
D1EF	1X Filler only	1XBR	Single XT1 blank and rail
D2BF	2X Blank and filler	1XEF	Single XT1 filler only
)2BB	2X Blank only	2ХВВ	Two XT1 blank only
02EF	2X Filler only	2XBF	Two XT1 blank, rail and filler
03BF	3X Blank and filler	2XBR	Two XT1 blank and rail
03BB	3X Blank only	2XEF	Two XT1 filler only
03EF	3X Filler only	5XBF	Five XT1 blank, rail and filler
04EF	4X Filler only	5XBR	Five XT1 blank and rail
06RF	3X RELT filler	5XEF	Five XT1 filler only

6X Filler only

Vertical filler

X-height and filler

needed

SR04EF

SR06EF

SR06RF

SR10SF

SR04EF

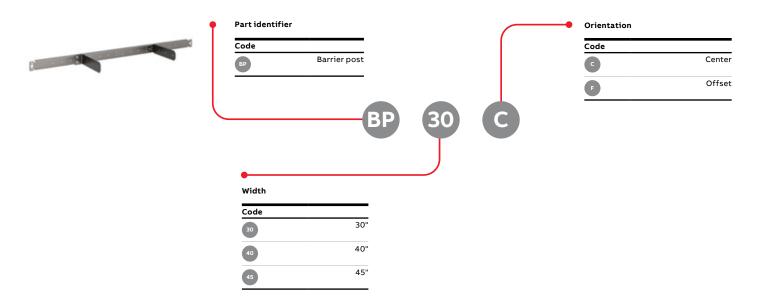
SR09MF

SR14MF

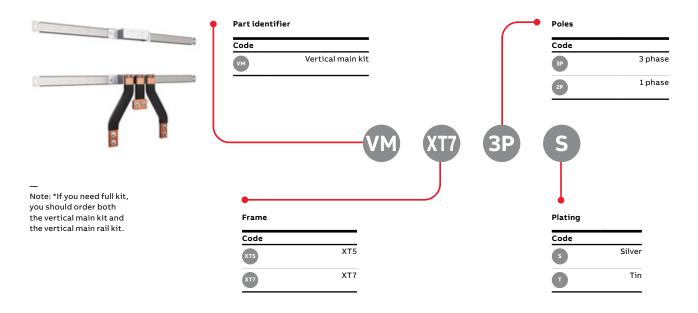
N/A

103 of 129

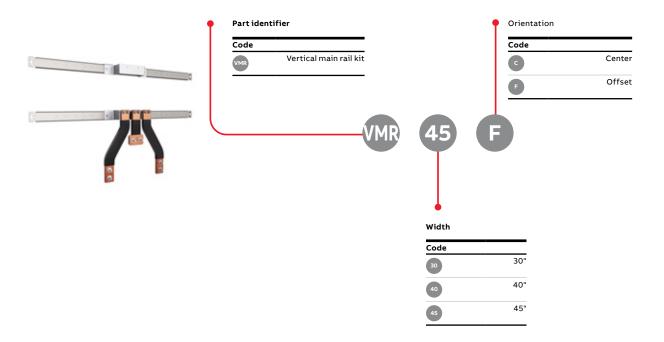
Barrier post



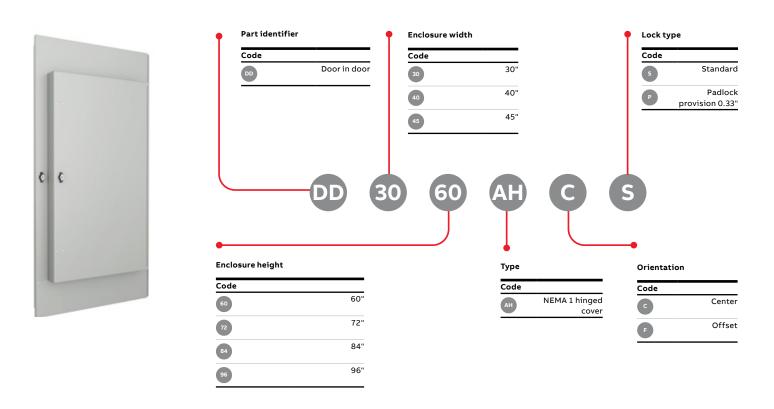
Vertical main kits



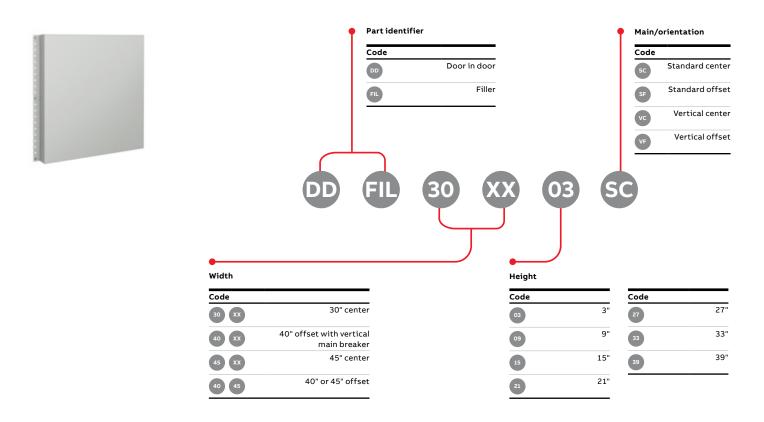
Vertical main rail kits



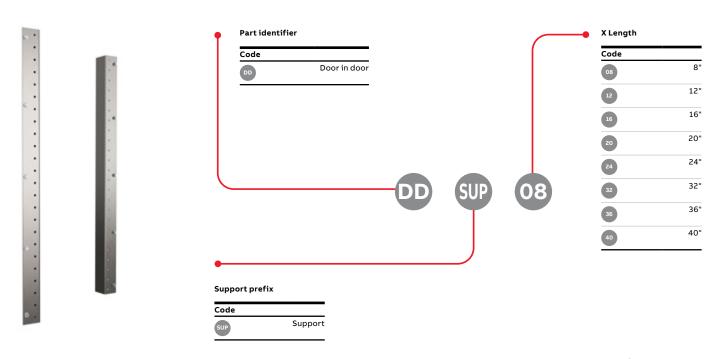
Door-in-door



Door-in-door filler

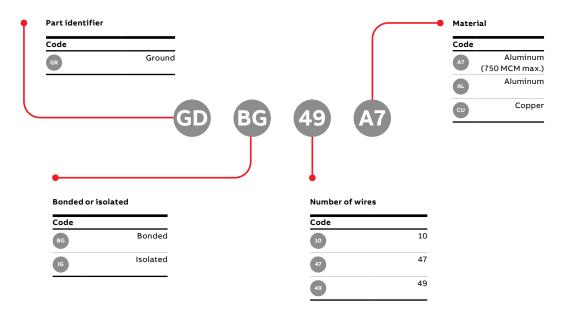


Door-in-door filler support



Grounds





Neutrals



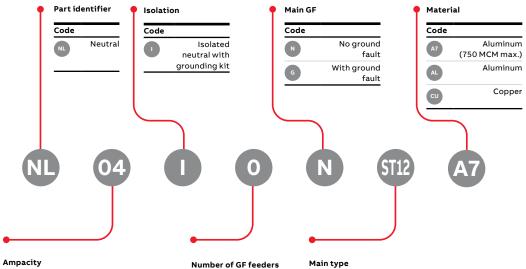
Note 1: All neutrals include a bonding kit.
Note 2: Compression lugs must be ordered separately when compression lug neutral is ordered (COMP and DCOM type).
Note 3: Expanded wire range and terminations available (A7 suffix).
See 15QC900020M0201 for more information.

Code

250 A

400 A

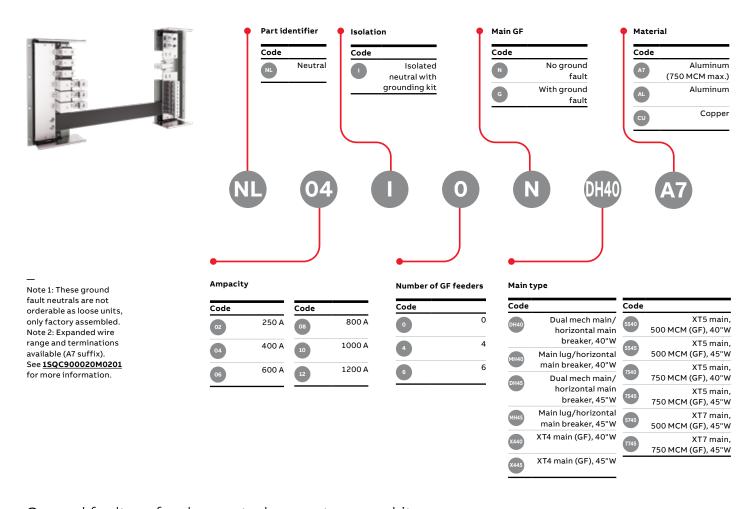
600 A



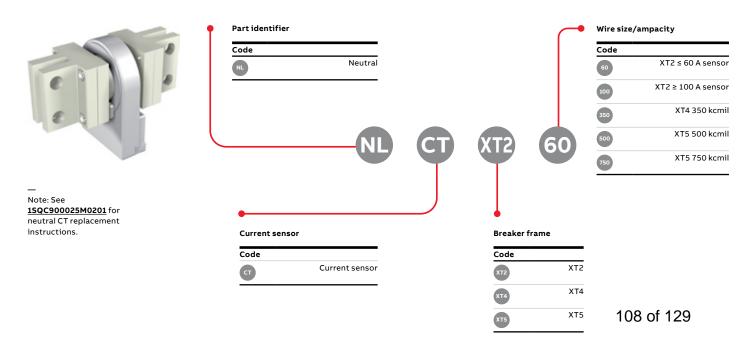
| Code | Code | Code | ST12 | Standard neutra | 12" lu | ST15 | Standard neutra | 15" lu | ST21 | Standard neutra | 15" lu | ST31 | Standard neutra | 21" lu | ST31 | Standard neutra | 21" lu | ST31 | Standard neutra | Coppe | TXTX | T50 MCM lug; no G | COMP | Comp main lug | Dual comp lug

lain	type		
ode		Code	
T12	Standard neutral, 12" lug	XT5T/B	XT5 main (GF) top/bottom
T15	Standard neutral, 15" lug	5X7T/B	XT7 main, 500 MCM (GF) top/ bottom
Т21	Standard neutral, 21" lug	7X7T/B	XT7 main, 750
TND	Standard neutral (copper)		MCM (GF) top/ bottom
х7х	750 MCM lugs, no GF	V47T/B	Vert. main, 750 MCM (no GF) top/ bottom
OMP	Comp main lugs	D240	200% dual
СОМ	Dual comp lugs		main lugs, 40" wide panel
5X7	Dual mech lugs, 500 MCM	D245	200% dual main lugs, 45" wide panel
7X7	Dual mech lugs, 750 MCM 1	0 7 of	2000/ main lugs
4T/B	XT4 main (GF) top/ bottom	M245	200% main lugs, 45" wide panel

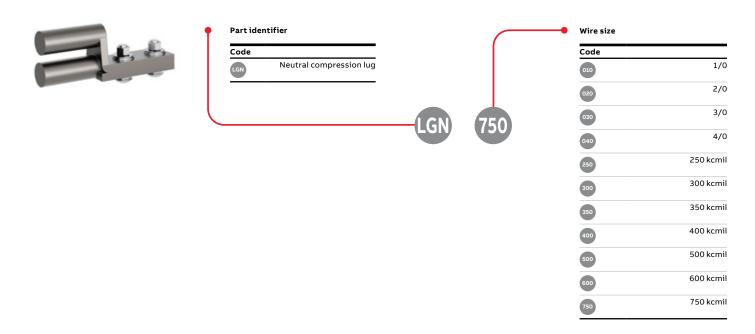
Ground fault on feeder neutrals



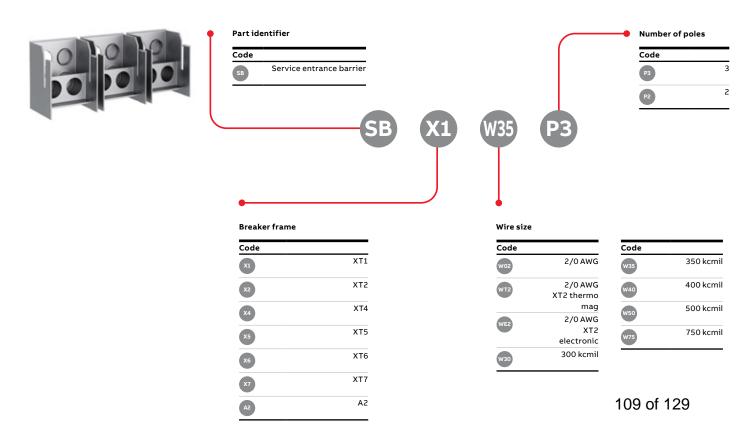
Ground fault on feeder neutral current sensor kits



Neutral compression lugs



Service entrance/finger-safe barriers



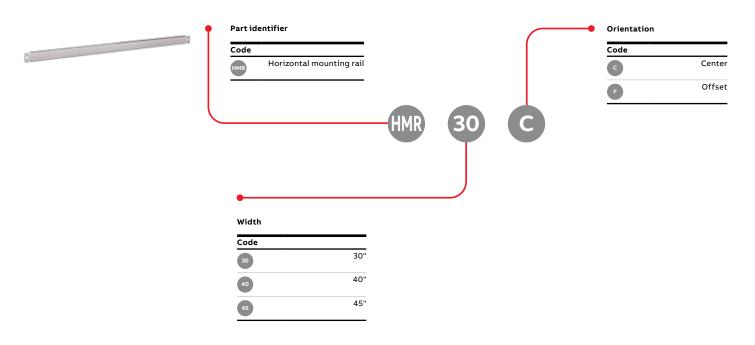
IP20 main lug barrier



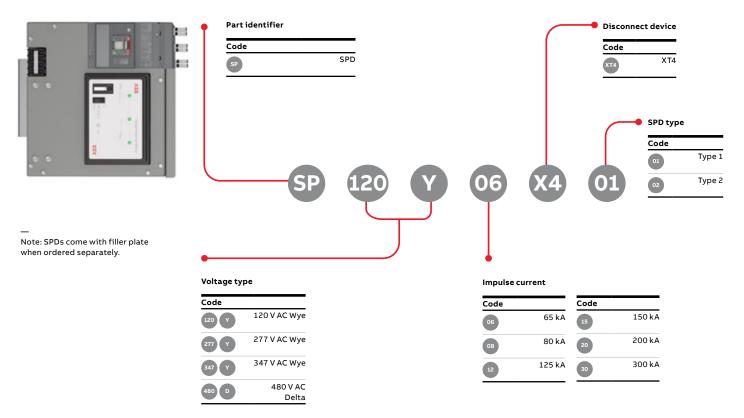
Note 1: When ordering the IP20 barrier separately, (1) additional horizontal mounting rail is required to be mounted in the enclosure.

Note 2: The IP20 barrier comes with (4) top barriers. Select the appropriate one according to the number of cables. See 1SQC900024M0201 for more information.

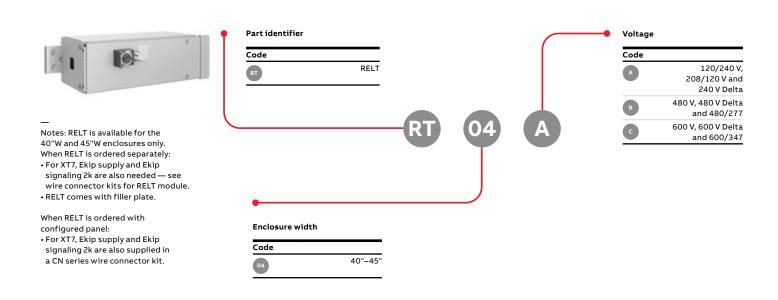
Horizontal mounting rail



Surge protection device (SPD)



RELT



Wire connector kit for RELT module

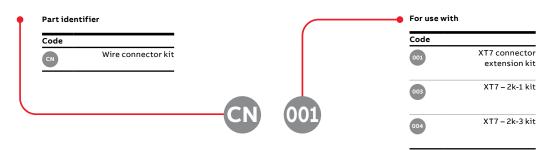


Notes: For replacement wire connector kits, an exact replacement must be used (i.e., a 2K-1 kit must be used to replace an existing 2K-1 kit). Failure to do so may result in incorrect RELT functionality or require the breaker to be re-programmed. Refer to 9AKK107991A2520 and 1SQC900005M0201 for more information.

CN003 includes Ekip 2K-1 signaling and Ekip supply.
CN004 includes Ekip 2K-3 signaling and Ekip supply. CN004 is ONLY compatible with firmware version 3.10.00 or higher. Refer to 9AKK107991A2520 to validate firmware version.

CN001 is a cable extension for use with XT7 vertical mains.

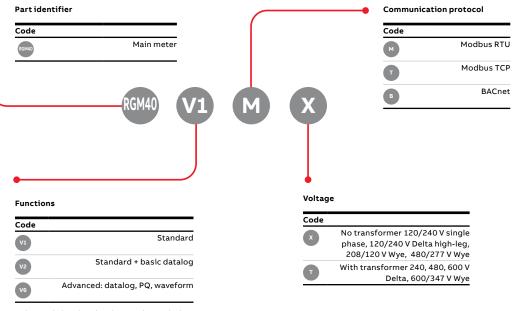
When vertical main is used, you must order CN001 and CN003 or CN001 and CN004.



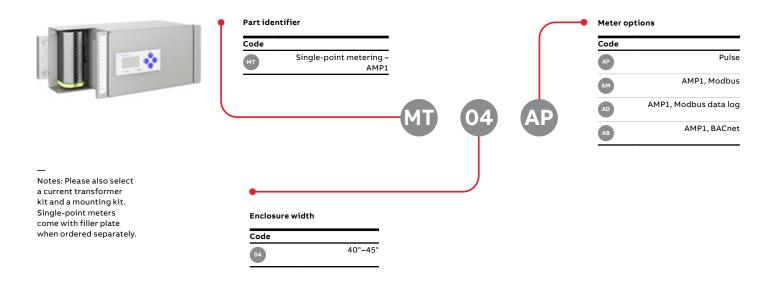
Single-point metering — RGM40



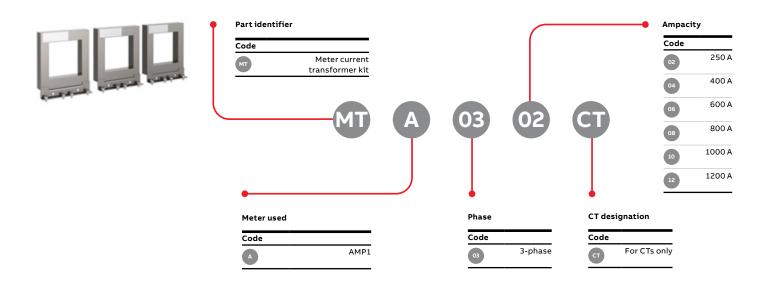
Note: Please also select a current transformer kit and a mounting kit. Single-point meters come with filler plate when ordered separately.



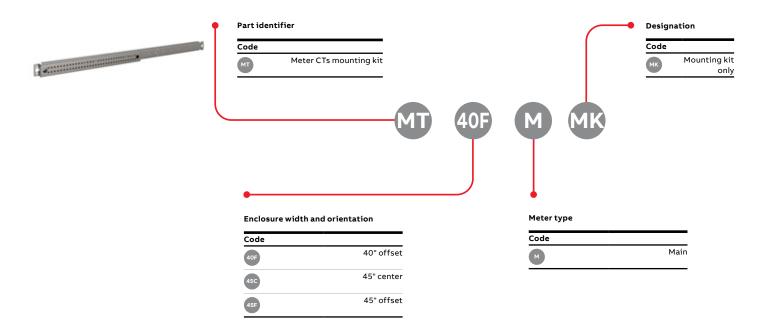
Single-point metering — AMP1



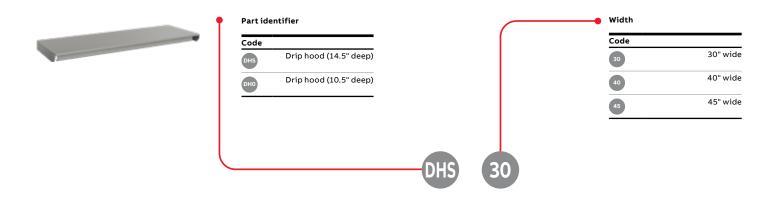
Meter current transformer kit



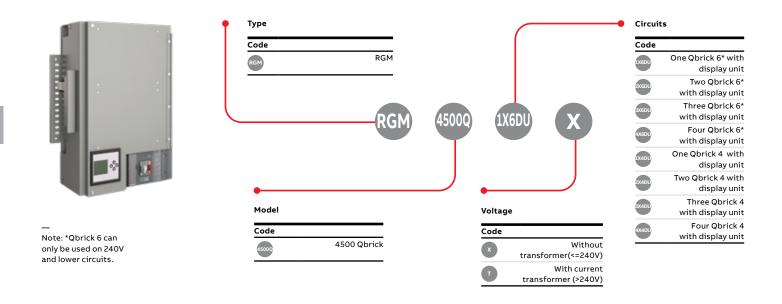
Meter CTs mounting kit



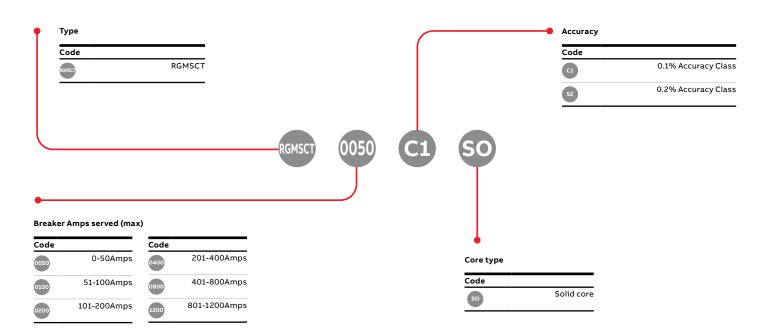
Drip hood



Submetering modules

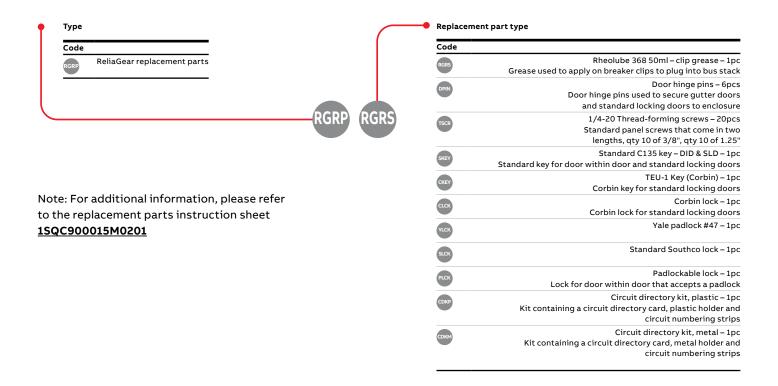


Submetering CTs



Note: These submetering components are not orderable as loose units, only available through factory assembled option, no Bulk Pack.

Replacement parts



RELIAGEAR NEXT 78

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78



Product	LCA Phase	Factor
Interior - ReliaGear neXT panelboard, 45W 72H Box		1.00
Interior - ReliaGear neXT panelboard, 30W 60H Box		0.81
Interior - ReliaGear neXT panelboard, 30W 72H Box		0.90
Interior - ReliaGear neXT panelboard, 30W 84H Box		1.01
Interior - ReliaGear neXT panelboard, 30W 96H Box		1.09
Interior - ReliaGear neXT panelboard, 40W 60H Box	Distribution	0.92
Interior - ReliaGear neXT panelboard, 40W 72H Box	Distribution	1.01
Interior - ReliaGear neXT panelboard, 40W 84H Box		1.13
Interior - ReliaGear neXT panelboard, 40W 96H Box		1.22
Interior - ReliaGear neXT panelboard, 45W 60H Box		0.91
Interior - ReliaGear neXT panelboard, 45W 84H Box		1.14
Interior - ReliaGear neXT panelboard, 45W 96H Box		1.23

 $Table\ 9:\ Distribution\ phase\ Extrapolation\ factors\ for\ Interior\ -\ ReliaGear\ neXT\ panelboard$ Reference product: Interior - ReliaGear neXT panelboard, 45W 72H Box

Product	LCA Phase	Factor
Interior - ReliaGear neXT panelboard, 45W 72H Box		1.00
Interior - ReliaGear neXT panelboard, 30W 60H Box		0.84
Interior - ReliaGear neXT panelboard, 30W 72H Box		1.15
Interior - ReliaGear neXT panelboard, 30W 84H Box		1.46
Interior - ReliaGear neXT panelboard, 30W 96H Box		1.77
Interior - ReliaGear neXT panelboard, 40W 60H Box		0.84
Interior - ReliaGear neXT panelboard, 40W 72H Box	Use phase	1.15
Interior - ReliaGear neXT panelboard, 40W 84H Box		1.46
Interior - ReliaGear neXT panelboard, 40W 96H Box		1.77
Interior - ReliaGear neXT panelboard, 45W 60H Box		0.69
Interior - ReliaGear neXT panelboard, 45W 84H Box		1.31
Interior - ReliaGear neXT panelboard, 45W 96H Box		1.62

Table 10: Use phase Extrapolation factors for Interior - ReliaGear neXT panelboard Reference product: Interior - ReliaGear neXT panelboard, 45W 72H Box

129 of 129

STATUS	SECURITY LEVEL	PEP ECOPASSPORT REG. NUMBER	DOCUMENT ID.	REV.	LANG.	PAGE		
Approved	Public	ABBG-00178-V01.01-EN	1SQC900683D0201	A.002	en	14/16		
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Product	GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ООР	АР	EP-freshwater	EP-marine	EP-terrestrial	РОСР	ADP-m & m	ADP-fossil	WDP
Interior - ReliaGear neXT panelboard, 45W 72H Box	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Interior - ReliaGear neXT panelboard, 30W 60H Box	0.82	0.81	1.25	0.96	0.73	0.87	1.07	0.74	0.77	0.76	0.71	0.80	0.86
Interior - ReliaGear neXT panelboard, 30W 72H Box	1.03	1.03	1.43	1.17	0.90	1.07	1.30	1.03	0.95	0.93	0.87	0.98	1.07
Interior - ReliaGear neXT panelboard, 30W 84H Box	1.17	1.17	1.60	1.34	1.01	1.22	1.50	1.17	1.07	1.05	0.98	1.11	1.22
Interior - ReliaGear neXT panelboard, 30W 96H Box	1.35	1.34	1.78	1.53	1.15	1.39	1.72	1.39	1.22	1.20	1.11	1.26	1.41
Interior - ReliaGear neXT panelboard, 40W 60H Box	0.94	0.94	1.26	1.07	0.89	1.00	1.16	0.83	0.92	0.91	0.88	0.94	0.98
Interior - ReliaGear neXT panelboard, 40W 72H Box	1.15	1.15	1.44	1.28	1.05	1.19	1.39	1.12	1.09	1.08	1.03	1.12	1.19
Interior - ReliaGear neXT panelboard, 40W 84H Box	1.30	1.30	1.61	1.46	1.18	1.35	1.60	1.27	1.23	1.21	1.15	1.26	1.35
Interior - ReliaGear neXT panelboard, 40W 96H Box	1.50	1.50	1.79	1.67	1.35	1.55	1.83	1.50	1.41	1.39	1.32	1.44	1.56
Interior - ReliaGear neXT panelboard, 45W 60H Box	0.81	0.81	0.82	0.80	0.84	0.82	0.78	0.77	0.84	0.84	0.85	0.83	0.81
Interior - ReliaGear neXT panelboard, 45W 84H Box	1.20	1.20	1.18	1.21	1.17	1.20	1.23	1.23	1.18	1.17	1.16	1.18	1.20
Interior - ReliaGear neXT panelboard, 45W 96H Box	1.39	1.39	1.36	1.42	1.33	1.38	1.46	1.46	1.34	1.34	1.32	1.35	1.40

Table 11: End of Life phase Extrapolation factors for Interior - ReliaGear neXT panelboard Reference product: Interior - ReliaGear neXT panelboard, 45W 72H Box



Additional environmental information

According to the waste treatment scenario calculation in Simapro [5], based on the recycling rate in the technical report IEC/TR 62635 Edition 1.0 [7] Table D.6, the following recyclability potentials were calculated. The recyclability potential is calculated based on the product weight (excluding packaging).

	Interior - ReliaGear neXT panelboard, 45W 72H Box
Recyclability potential	87.6 %

Table 12: Recyclability potential

129 of 129

STATUS	SECURITY LEVEL	PEP ECOPASSPORT REG. NUMBER	DOCUMENT ID.	REV.	LANG.	PAGE			
Approved	Public	ABBG-00178-V01.01-EN	1SQC900683D0201	A.002	en	15/16			
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References

- [1] PCR "PEP-PCR-ed4-EN-2021_09_06" Product Category Rules for Electrical, Electronic and HVAC-R Products (published: 6th September 2021)
- [2] PSR "PSR-0005-ed2-EN-2016 03 29" Specific rules for Electrical switchgear and control gear Solutions (Other equipments- Passive product-Continuous operation)
- [3] EN 50693:2019 Product category rules for life cycle assessments of electronic and electrical products and systems
- [4] ecoinvent v3.9.1 (2023). ecoinvent database version 3.9 (https://ecoinvent.org/)
- [5] SimaPro Software version 9.5.0.1 PRé Sustainability
- [6] UNI EN 15804:2012+A2:2019: Sustainability of constructions Environmental product declarations (September 2019).
- [7] IEC/TR 62635 Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment Edition 1.0 2012-10

129 of 129

STATUS Approved	SECURITY LEVEL Public	PEP ECOPASSPORT REG. NUMBER ABBG-00178-V01.01-EN	DOCUMENT ID. 1SQC900683D0201	REV. A.002	LANG. en	PAGE 16/16
- ' '	T UDITE	ABBG-00170-V01.01-EIV	13@C300003D0201	A.00L	CII	10/10





TERMS AND CONDITIONS OF SALE

General Policies and Conditions

- This Proposal is offered subject to the following: 1) attached TERMS AND CONDITIONS OF SALE, 2) an executed Master Supply Agreement ("MSA"), and 3) ABB Inc.'s current general Terms and Condition of Sale. Any conflict among the documents comprising the terms of this Proposal shall be resolved in accordance with the following order of precedence: (i) an executed MSA incorporating the following Terms and Conditions of Sale (ii) attached TERMS AND CONDITIONS OF SALE incorporating ABB Inc. General Terms and Conditions of Sale. Non-ABB preprinted PO terms have no force
- and/or effect and are hereby rejected by ABB.

 All quoted or agreed prices are subject to revision at any time in the event of: (i) a material increase in component, raw material, or energy costs; or (ii)
- governmental action such as new or increased tariffs.

 Buyer represents and warrants that there are no federal, state, or local (collectively "Governmental") contracting provisions, regulations, flow-downs, or requirements that apply to this transaction, including without limitation any Governmental domestic preference or prevailing wage, other than such terms that have been disclosed and agreed to by Seller in writing. Buyer assumes sole responsibility for any costs associated with non-compliance of terms not agreed by Seller in writing. Unless expressly provided in writing, Seller makes no representation that the quoted product(s) or service(s) comply with any Governmental contracting
- This proposal expires in 30 calendar days, unless terminated sooner by notice. This proposal is not inclusive of taxes of any kind, unless explicitly stated. Inis proposal expires in 30 calendar days, unless terminated sooner by notice. Inis proposal is not inclusive of taxes of any kind, unless explicitly stated. Orders not requiring engineered drawings for approval must be released by Buyer for manufacture within 90 days of PO receipt. If engineered drawings are required, they must be returned and approved by Buyer for release within 60 days of mailing. If not, and/or shipment is delayed for any reason the price will increase by 1.5% for each partial/full month that shipment release is delayed after the 90-day period. If project is delayed 6 months or more after PO receipt, project will be repriced based off current market values.

 For MV Transformers (including Padmount, Substation, & Power transformers), refer to the factory proposal for applicable terms and conditions including, but not limited to quote validity, price validity, escalation, warranty, cancellation, estimated delivery, and freight terms.

Payment Terms

- Net 30 days from the date of invoice
- Net 30 days from the date of invoice.
 For projects up to \$1,000,000 net, terms of payment are 100% upon invoicing.
 If project value exceeds \$1,000,000 net, progress payments are required payable at the following milestones. These milestones will be applied at a line-item level and will be tailored to the project schedule.
 - 20% upon delivery of drawings
 - 30% upon release of equipment 50% upon shipment

Warranty

- The warranty for Products shall expire one (1) year from date of installation or eighteen (18) months after date of shipment, whichever occurs first, except that software is warranted for ninety (90) days from delivery. The warranty for Services shall expire one (1) year after performance of the Service, except that software related Services are warranted for ninety (90) days.

 Additional 12 months available for 2% adder, 24 months for 4% adder. Engage ABB representative if longer durations are needed.
- All warranty claim remedies are provided under the General Terms and Conditions of Sale, or any applicable MSA, whichever is applicable between the parties.

Order Cancellation - Schedule of Charges

- 30% Drawings for approval submitted, if required
- 50% Revisions to approval drawings submitted, if required. 80% Order released for manufacturing and shipment.
- 100% Production started.

Delivery and Transportation

- CPT/FCA ABB's facility, place of manufacture or warehouse (Incoterms 2020). Title and risk of loss passes upon shipment.
- ABB will assume the risk of loss or damage to the destination for a 2% adder (but not less than \$500 net) applied to the total price of the equipment. "Destination" is defined as ABB's common carrier's delivery point nearest first destination or point of export within the continental U.S. Transportation and handling are prepaid and billed, unless otherwise noted in this quotation or MSA. Shipment via Air or Open Toy/Flatbed/Lift gate truck not included unless specifically listed herein.
- Special Instruction The Receiving Associate is required to sign, date, and note specific visible or concealed damage on Bill of Lading at time of delivery. Freight Company Associate is required to witness Receiver's signature, date, and damage claim annotations. ABB's Post Sales Service Department must be provided with copy of annotated BOL within five (5) days of delivery or Shipper's responsibility ends.

Other Notes

- Standard factory test procedures will be performed. Customer inspections, customer witness tests, and any other non-standard test procedures are not included unless specifically noted herein.
- The accompanying Bill of Material is our interpretation of what is required to meet the intent of the listed Drawings and Specifications. Please review thoroughly for accuracy and completeness and advise immediately if any revisions are required. This proposal is limited to the attached Bill of Material only. Selective coordination of the system should be verified by a qualified engineer and may require changes to the design, Bill of Material, and price.

 The Parties are aware of the shortage of raw materials, electronic components worldwide which is likely to last for the foreseeable future, as well as, of market
- fluctuations in the availability and cost of other raw materials, commodities, other critical components, and transportation capacities. Notwithstanding anything to the contrary in the contract terms and conditions / purchase order, if after the date of ABB's proposal / offer or during the term of the performance of the contract / purchase order there are any changes to availability and / or market conditions for electronic components, raw materials, commodities, and transportation capabilities directly or indirectly affecting ABB's performance, ABB shall be entitled to relief in the schedule of the performance or delivery of the directly or indirectly affected scope of work under the contract / purchase order. In such circumstances, the Parties shall meet without delay and discuss in good faith to find a mutually agreeable solution, with equitable adjustment to the contract / purchase order date of delivery or completion. Customer hereby acknowledges and agrees that in said circumstances ABB may not be able to comply with the originally agreed delivery or completion schedule and that ABB shall not be liable for any liquidated or actual damages in connection thereto.





ABB INC. GENERAL TERMS AND CONDITIONS OF SALE (2024-02 U.S.)

1. General.

1. General.

The terms and conditions contained herein, together with any additional or different terms con-tained or referenced in ABB's proposal or, quotation and ("Proposal"), any addenda to the Proposal, the purchase order (excluding any pre-printed terms and conditions and any terms that conflict with the Proposal or ABB's acknowledgment), and ABB's acknowledgment, submitted to Purchaser constitute the entire agreement (the "Agreement") between the parties with respect to the purchase order and supersede all other prior communications and agreements regarding the purchase order. Acceptance by ABB of the purchase order, or Purchaser's acceptance of ABB's Proposal, is expressly limited to and conditioned upon Purchaser's acceptance of these terms and conditions, payment for or acceptance of any performance by ABB being acceptance. These terms and conditions may not be changed or superseded by any different or additional terms and conditions proposed by Purchaser to which terms ABB hereby objects. Unless the context otherwise requires, the term "Equipment" as used herein means all the equipment, parts, accessories sold, and all software and software documentation, if any, licensed to Purchaser by ABB ("Software") under the purchase order. Unless the context otherwise requires, the term "Services" as used herein means all labor, supervisory, technical and engineering, installation, repair, consulting or other services provided by ABB under the purchase order. As used herein the term "Purchaser" shall also include the initial end user of the Equipment and/or services; provided, however, that Article 14(a) shall apply exclusively to the initial end user. or services; provided, however, that Article 14(a) shall apply exclusively to the 5. Delivery.

2. Prices.
(a) Unless otherwise specified in writing, all Proposals expire thirty (30) days from the date thereof and may be modified or withdrawn by ABB before receipt of Purchaser's conforming acceptance. All prices set forth in a purchase order may be revised by ABB at any time prior to delivery or performance based on ABB's sole but reasonable estimate of its cost increases (after the Proposal date) resulting directly or indirectly from factors such as: (i) a significant increase in raw material, component, labor, or energy costs or (ii) governmental actions, such as increased tariffs on the Equipment, raw material, or components.
(b) Unless otherwise stated herein. Services prices are based on normal dates.)

(b) Unless otherwise stated herein, Services prices are based on normal business hours (8 a.m. to 5 p.m. Monday through Friday). Overtime and Saturday hours will be billed at one and one-half (1 1/2) times the hourly rate; and Sunday hours will be billed at two (2) times the hourly rate; holiday hours will be billed at three (3) times the hourly rate. If a Services rate sheet is attached hereto, the applicable Services rates shall be those set forth in the rate sheet. Rates are subject to change without notice. (c)Except as otherwise agreed by ABB, the price does not include any federal,

(c)Except as otherwise agreed by ABB, the price does not include any federal, state or local property, license, privilege, sales, use, excise, gross receipts, tariffs or other like taxes ("Taxes") which may now or hereafter be applicable. Purchaser agrees to pay or reimburse any such Taxes, or ABB's reasonable estimated cost impact thereof, which ABB or its suppliers are required to pay or collect. If Purchaser is exempt from the payment of any Tax or holds a direct payment permit, Purchaser shall, upon purchase order placement, provide ABB a copy, acceptable to the relevant governmental authorities of any such certificate or permit.

3. Payment.

(a) Unless specified to the contrary in writing by ABB, payment terms are net cash, payable without offset, in United States Dollars, 30 days from date of invoice by wire transfer to the account designated by ABB in the Proposal.

invoice by wire transfer to the account designated by ABB in the Proposal. ABB is not required to commence or continue its performance unless and until invoiced payments have been received in a timely fashion. For each day of delay in receiving required payments, ABB shall be entitled to a matching extension of the schedule.

(b) If in the judgment of ABB, the financial condition of Purchaser at any time prior to delivery does not justify the terms of payment specified, ABB may require payment in advance, payment security satisfactory to ABB and suspend its performance until said advance payment or payment security is received or may terminate the purchase order, whereupon ABB shall be entitled to receive reasonable cancellation charges. If delivery is delayed by Purchaser, payment shall be due on the date ABB is prepared to make delivery. Delays in delivery or nonconformities in any installments delivered shall not relieve Purchaser of its obligation to accept and pay for remaining installments.

(c) Purchaser shall pay, in addition to the overdue payment, a late charge equal to the lesser of 1 1/2% per month or any part thereof or the highest applicable rate allowed by law on all such overdue amounts plus ABB's

attorneys' fees and court costs incurred in connection with collection. If Purchaser fails to make payment of any amounts due under any purchase order and fails to cure such default within ten (10) days after receiving written notice specifying such default, then ABB may by written notice, at its option, suspend its performance under the purchase order until such time as the full balance is paid or terminate the purchase order, as of a date specified in such notice. In the event of suspension, cancellation or termination hereunder, ABB will be entitled to recover all costs for work performed to date, costs associated with suspension, cancellation or termination of the work and all other costs recoverable at law.

4. Changes.

4. Changes.
(a) Any changes requested by Purchaser affecting the ordered scope of work must first be reviewed by ABB and any resulting adjustments to affected provisions, including price, schedule, and guarantees mutually agreed in writing prior to implementation of the change.
(b) ABB may, at its expense, make such changes in the Equipment or Services as it deems necessary, in its sole discretion, to conform the Equipment or Services to the applicable specifications. If Purchaser objects to any such changes, ABB shall be relieved of its obligation to conform to the proplicable specifications to the extent that conformance may be affected by applicable specifications to the extent that conformance may be affected by such objection.

(a) All Equipment manufactured, assembled or warehoused in the continental United States is delivered FCA ABB point of shipment, Incoterms® 2020 unless otherwise mutually agreed in writing. Equipment shipped outside the continental United States is delivered FCA Incoterms®

2020 United States port of export unless otherwise mutually agreed in writing. Purchaser shall be responsible for any and all demurrage or detention charges.

(b) If the scheduled delivery of Equipment is delayed by Purchaser or by Force Majeure, ABB may move the Equipment to storage for the account of and at the risk of Purchaser whereupon it shall be deemed to be delivery deals.

and at the risk of Purchaser whereupon it shall be deemed to be delivered.

(c) Shipping and delivery dates are contingent upon Purchaser's timely approvals and delivery by Purchaser of any documentation required for ABB's performance hereunder.

(d) Claims for shortages or other errors in delivery must be made in writing to ABB within ten (10) days of delivery. Equipment may not be returned except with the prior written consent of and subject to terms specified by ABB. Claims for damage after delivery shall be made directly by Purchaser with the common carrier.

6. Title & Risk of Loss. Except with respect to Software (for which title shall not pass, use being licensed) title to Equipment shall transfer to Purchaser upon delivery according to the applicable freight term. Notwithstanding any agreement with respect to delivery terms or payment of transportation charges, risk of loss or damage with respect to the sale of Equipment shall pass from ABB to Purchaser at delivery as defined in this Agreement.

7. Inspection, Testing and Acceptance.

(a) Any inspection by Purchaser of Equipment on ABB's premises shall be scheduled in advance to be performed during normal working hours and subject to rules and regulations in place at the ABB premises.

(b) If the purchase order provides for factory acceptance testing, ABB shall notify Purchaser when ABB will conduct such testing prior to shipment. Unless Purchaser states specific objections in writing within ten (10) days after completion of factory acceptance testing, completion of the acceptance test constitutes Purchaser's factory acceptance of the Equipment and its authorization for shipment.

authorization for shipment.

(c) If the purchase order provides for site acceptance testing, testing will (c) if the puricase order provides for site acceptance testing, testing will be performed by ABB personnel to verify that the Equipment has arrived at site complete, without physical damage, and in good operating condition. Completion of site acceptance testing constitutes full and final acceptance of the Equipment. If, through no fault of ABB, acceptance testing is not completed within thirty (30) days after arrival of the Equipment at the site, the site acceptance test shall be deemed completed and the Equipment shall be deemed accepted.

8. Warranties and Remedies.

6. Warranties and Remedies.
(a) Equipment and Services Warranty. ABB warrants that Equipment (excluding Software, which is warranted as specified in paragraph (d) below) shall be delivered free of defects in material and workmanship and that Services shall be free of defects in workmanship. The Warranty Remedy Period for Equipment (excluding Software and Spare Parts) shall end twelve (12) months after installation or eighteen (18) months after date of shipment,





whichever first occurs. The Warranty Remedy Period for new spare parts shall end twelve (12) months after date of shipment. If the purchase order includes the sale of refurbished or repaired parts, the Warranty Remedy Period for such parts shall end ninety (90) days after date of shipment. The Warranty Remedy Period for Services shall end ninety (90) days after the date of completion of

Period for Services shall end ninety (90) days after the date of completion of Services.

(b) Equipment and Services Remedy. If a nonconformity to the foregoing warranty is discovered in the Equipment or Services during the applicable Warranty Remedy Period, as specified above, under normal and proper use and provided the Equipment has been properly stored, installed, operated and maintained and written notice of such nonconformity is provided to ABB promptly after such discovery and within the applicable Warranty Remedy Period, ABB shall, at its option, either (i) repair or replace the nonconforming portion of the Equipment or re-perform the nonconforming Services or (ii) refund the portion of the price applicable to the nonconforming portion of Equipment or Services. If any portion of the Equipment or Services so repaired, replaced or re-performed fails to conform to the foregoing warranty, and written notice of such nonconformity is provided to ABB promptly after discovery and within the original Warranty Remedy Period applicable to such Equipment or Services or thirty (30) days from completion of such repair, replacement or reperformance, whichever is later, ABB will repair or replace such nonconforming Equipment or re-performs the nonconforming Services. The original Warranty Remedy Period shall not otherwise be extended.

(c) Exceptions. ABB shall not be responsible for providing temporary power, removal, installation, reimbursement for labor costs or working access to the nonconforming Equipment, including disassembly and re-assembly of non-ABB supplied equipment, or for providing transportation to or from any repair facility, or for any other expenses incurred in connection with the repair or replacement, all of which shall be at Purchaser's risk and expense. ABB shall have no obligation hereunder with respect to any Equipment which (i) has been improperly repaired or altered; (iii) has been subjected to misuse, negligence or accident; (iiii) has been used in a manner contrary to ABB's instructions: (iv

improperly repaired or altered; (ii) has been subjected to misuse, negligence or accident; (iii) has been used in a manner contrary to ABB's instructions; (iv) is comprised of materials provided by or a design specified by Purchaser, or (v) has failed as a result of ordinary wear and tear. Equipment supplied by ABB but manufactured by others is warranted only to the extent of the manufacturer's warranty, and only the remedies, if any, provided by the manufacturer will be

warranty, and only the remedies, if any, provided by the manufacturer will be allowed.

(d) Software Warranty and Remedies. ABB warrants that, except as specified below, the Software will, when properly installed, execute in accordance with ABB's published specification. If a nonconformity to the foregoing warranty is discovered during the period ending one (1) year after the date of shipment and written notice of such nonconformity is provided to ABB promptly after such discovery and within that period, including a description of the nonconformity and complete information about the manner of its discovery, ABB shall correct the nonconformity by, at its option, either (i) modifying or making available to the Purchaser instructions for modifying the Software; or (ii) making available at ABB's facility necessary corrected or replacement programs. ABB shall have no obligation with respect to any nonconformities resulting from (i) unauthorized modification of the Software or (ii) Purchaser-supplied software or interfacing. ABB does not warrant that the functions contained in the software will operate in combinations which may be selected for use by the Purchaser, or that the software products are free from errors in the nature of what is commonly categorized by the computer industry as "bugs".

(e) THE FOREGOING WARRANTIES OF QUALITY AND PERFORMANCE, WHETHER WRITTEN, ORAL OR IMPLIED, AND ALL OTHER WARRANTIES OF ALL OTHER WARRANTIES OF GUALITY AND PERFORMANCE, WHETHER WRITTEN, ORAL OR IMPLIED, AND ALL OTHER WARRANTIES OF HERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USAGE OF TRADE ARE HEREBY DISCLAIMED. THE REMEDIES STATED HEREIN CONSTITUTE PURCHASER'S EXCLUSIVE REMEDIES AND ABB'S ENTIRE LIABILITY FOR ANY BREACH OF WARRANTY.

(b) ABB shall have no obligation hereunder and this provision shall not apply to: (i) any other equipment or processes, including Equipment or Processes which have been modified or combined with other equipment or process not supplied by ABB; (ii) any Equipment or Process supplied according to a design, other than an ABB design, required by Purchaser; (iii) any products manufactured by the Equipment or Process; (iv) any use of the Equipment or Process contrary to ABB instructions; (v) any patent issued after the date hereof; or (vi) any action settled or otherwise terminated without the prior written consent of ABB.

(c) If, in any such action, the Equipment is held to constitute an infringement. (c) If, in any such action, the Equipment is held to constitute an infringement, or the practice of any Process using the Equipment is finally enjoined, ABB shall, at its option and its own expense, procure for Purchaser the right to continue using said Equipment; or modify or replace it with non-infringing equipment or, with Purchaser's assistance, modify the Process so that it becomes non-infringing; or remove it and refund the portion of the price allocable to the infringing Equipment. THE FOREGOING PARAGRAPHS STATE THE EXCLUSIVE LIABILITY OF ABB AND EQUIPMENT MANUFACTURER FOR ANY INTELLECTUAL PROPERTY INTELLECTUAL PROPERTY

INFRINGEMENT.
(d) To the extent that said Equipment or any part thereof is modified by Purchaser, or combined by Purchaser with equipment or processes not furnished hereunder (except to the extent that ABB is a contributory infringer) or said Equipment or any part thereof is used by Purchaser to perform a process not furnished hereunder by ABB or to produce an article, and by reason of said modification, combination, performance or production, an action is brought against ABB, Purchaser shall defend and indemnify ABB in the same manner and to the same extent that ABB would be obligated to indemnify Purchaser under this "Intellectual Property Indemnification" provision.

10. Waiver of Consequential Damages.

In no event shall ABB, its suppliers or subcontractors be liable for special, indirect, incidental or consequential damages, whether in contract, warranty, tort, negligence, strict liability or otherwise, including, but not limited to, loss of profits or revenue, loss of data, loss of use, loss of use of any of the Equipment or any associated equipment, cost of capital, cost of substitute equipment, facilities or services, downtime costs, delays, and claims of customers of the Purchaser or other third parties for any damages

11. Limitation of Liability.

(a) ABB's aggregate liability for all claims whether in contract, warranty, tort, (a) ABB's aggregate liability for all claims whether in contract, warranty, tort, negligence, strict liability, or otherwise for any loss or damage arising out of, connected with, or resulting from this Agreement or the performance or breach thereof, or from the design, manufacture, sale, delivery, resale, repair, replacement, installation, technical direction of installation, inspection, operation or use of any equipment covered by or furnished under this Agreement, or from any services rendered in connection therewith, shall in no case (except as provided in the section entitled "Intellectual Property Indemnification") exceed the purchase order price.

(b) All causes of action against ABB arising out of or relating to this Agreement or the performance or breach hereof shall expire unless brought within one (1) year of the time of accrual thereof.

(c) In no event, regardless of cause, shall ABB be liable for penalties or penalty clauses of any description or for indemnification of Purchaser or others for costs, damages, or expenses arising out of or related to the

others for costs, damages, or expenses arising out of or related to the Equipment and/Services.

(d) The rights and remedies of the parties contained under these terms and

conditions shall be sole and exclusive.

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shall be conducted only in the state or federal courts functioning in the State of New York, New York County and waive the defense of an inconvenient forum in respect to any such litigation. If any provision hereof, partly or completely, shall be held invalid or unenforceable, such invalidity or unenforceability shall not affect any other provision or portion hereof and these terms shall be construed as if such invalid or unenforceable provision or portion thereof had never existed.

13. OSHA.

13. OSHA.

ABB warrants that the Equipment will comply with the relevant standards of the Occupational Safety and Health Act of 1970 ("OSHA") and the regulations promulgated thereunder as of the date of the Proposal. Upon prompt written notice from the Purchaser of a breach of this warranty, ABB will replace the affected part or modify it so that it conforms to such standard or regulation. ABB's obligation shall be limited to such replacement or modification. In no event shall ABB be responsible for liability arising out of the violation of any OSHA standards relating to or caused by Purchaser's design, location, operation, or maintenance of the Equipment, its use in association with other equipment of Purchaser, or the alteration of the Equipment by any party other than ABB.

14. Software License. (a) ABB owns all rights in or has the right to sublicense all of the Software, if any, to be delivered to Purchaser under this Agreement. As part of the sale made hereunder Purchaser hereby obtains a limited license to use the Software, subject to the following: (i) the Software may be used only in conjunction with equipment specified by ABB;(ii) the Software shall be kept strictly confidential; (iii) the Software shall not be copied, reverse engineered, or modified; (iv) the Purchaser's right to use the Software shall terminate immediately when the specified equipment is no longer used by the Purchaser or when otherwise terminated, e.g. for breach, hereunder; and (v) the rights to use the Software are non-exclusive and non-transferable, except with ABB's prior written consent.

prior written consent.

(b) Nothing in this Agreement shall be deemed to convey to Purchaser any (b) Nothing in this Agreement shall be deemed to convey to Purchaser any title to or ownership in the Software or the intellectual property contained therein in whole or in part, nor to designate the Software a "work made for hire" under the Copyright Act, nor to confer upon any person who is not a named party to this Agreement any right or remedy under or by reason of this Agreement. In the event of termination of this License, Purchaser shall immediately cease using the Software and, without retaining any copies, notes or excerpts thereof, return to ABB the Software and all copies thereof and shall remove all machine-readable Software from all of Purchaser's storage media.

15. Intellectual Property, Inventions and Information.

(a) "Intellectual Property Rights" means all current and future rights in copyrights, trade secrets, trademarks, mask works, patents, design rights, trade dress, and any other intellectual property rights that may exist anywhere in the world, including, in each case whether unregistered, registered or comprising an application for registration, and all rights and forms of protection of a similar nature or having equivalent or similar effect to any of the foregoing. "Technology" means all inventions, discoveries, ideas, concepts, methods, code, executables, manufacturing processes, unique compositions, mask works, designs, marks, and works of authorship fixed in the medium of expression, and materials pertaining to any of the preceding; whether or not patentable, copyrightable or subject to other forms of protection.

(b) ABB shall maintain all right, title and interest in any Technology and Intellectual Property Rights that ABB owned, created, conceived or discovered prior to entering into this Agreement, or owns, creates or discovers separately

Intellectual Property Rights that ABB owned, created, conceived or discovered prior to entering into this Agreement, or owns, creates or discovers separately from the activities contemplated by this Agreement. Unless otherwise agreed in writing by ABB and Purchaser, ABB shall have all right, title and interest in any Technology and Intellectual Property Rights that ABB creates, conceives or discovers in furtherance of this Agreement, and ABB shall have all right, title and interest in any Technology and Intellectual Property Rights embodied in the Equipment and Services. Any design, manufacturing drawings or other information submitted to the Purchaser remains the exclusive property of ABB. Purchaser shall not, without ABB's prior written consent, copy or disclose such information to a third party, unless required by a public information request from a governmental body. Such information shall be used solely for the operation or maintenance of the Equipment and not for any other purpose, including the duplication thereof in whole or in part.

16. Force Maieure.

ABB shall neither be liable for loss, damage, detention or delay nor be deemed to be in default for failure to perform when prevented from doing so by causes beyond its reasonable control including but not limited to acts of war (declared or undeclared), delays attributable to outbreaks, epidemics and pandemics (including any variations),

Acts of God, fire, strike, labor difficulties, acts or omissions of any governmental authority or of Purchaser, compliance with government regulations, insurrection or riot, embargo, delays or shortages in transportation or inability to obtain necessary labor, materials, or manufacturing facilities from usual sources or from defects or delays in the performance of its suppliers or subcontractors due to any of the foregoing enumerated causes. In the event of delay due to any such cause, the date of delivery will be extended by period equal to the delay plus a reasonable fine to resume production and the price will be adjusted to compressed ABBE fine. to resume production, and the price will be adjusted to compensate ABB for such delay.

17. Cancellation.

Special order, custom designed, and made-to-order Equipment are non-cancelable and non-returnable. Any other purchase order may be cancelled by Purchaser only upon prior written notice and payment of termination charges as set forth in the cancellation schedule included in the Proposal or payment of, including but not limited to, the purchase price of the work performed prior to the effective date of notice of termination, the costs identified to the purchase order incurred by ABB for work not completed, and all expenses incurred by ABB attributable to the termination, plus a fixed sum of ten (10) percent of the final total price to compensate for disruption in scheduling, planned production and other indirect costs. scheduling, planned production and other indirect costs.

18. Termination.

(a) No termination by Purchaser for material default shall be effective unless, within fifteen (15) days after receipt by ABB of Purchaser's written notice specifying such default, ABB shall have failed to initiate and pursue with due diligence correction of such specified default.

(b) If the event of termination for a material default, ABB shall reimburse Purchaser the difference between that portion of the Agreement price allocable to the terminated scope and the actual amounts reasonably incurred by Purchaser to complete that scope, and Purchaser shall pay to ABB the portion of the Agreement price allocable to Equipment completed and any amounts due for Services performed before the effective date of

termination.

(c) ABB may terminate the Agreement (or any affected portion thereof) immediately for cause if Purchaser becomes insolvent/bankrupt, or materially breaches the Agreement, including, but not limited to, failure or delay in Purchaser making any payment when due, or fulfilling any payment conditions. conditions.

19. Export Control.

19. Export Control.

(a) The following definitions apply to this Article19:
"Trade Control Laws" means all applicable trade and economic sanctions laws and regulations, specifically including but not limited to the U.S. International Traffic in Arms Regulations ("ITAR"), 22 C.F.R. 120 et seq.; the Export Administration Regulations ("EAR"), 15 C.F.R. 730-774; the Foreign Assets Control Regulations ("FAR"), 31 C.F.R. 500-598; the Foreign Trade Regulations ("FTR"), 15 C.F.R. 30-199; and, any administrative or regulatory decisions or guidelines adopted pursuant to Trade Control Laws.
"Purchaser Entities" means Purchaser's officers, directors, employees parent company, subsidiaries and other affiliates, and if f the Equipment, Software and/or Services are subject to resale or other distribution, Purchaser's customers and end-users of the same.

(b) Purchaser shall comply in all respects with Trade Control laws and shall not export, re-export, transfer, disclose or otherwise provide or make accessible the Equipment, Software, data or other information provided to Purchaser by ABB hereunder, to any non-U.S. person or entity (including Purchaser's dual and/or third-country national employees or third party contractors) without first complying with all requirements of the applicable Trade Control Laws. If Purchaser is a U.S. entity and is engaged in the business of either exporting or manufacturing (whether exporting or not) Defense Articles or furnishing Defense Services as defined in the ITAR, Purchaser represents that it shall maintain an active registration with the U.S. Department of State's Directorate of Defense Trade Controls ("DDTC"), as required by the ITAR, If Purchaser is a U.S. entity and will export ABB's Equipment, Software, and/or data, Purchaser will be considered an exporter within the meaning of the U.S. export regulations. Therefore, ABB should not be listed as the exporter or U.S. Principal Party in Interest ("USPPI") on any documentation or filings relating to any export. Purchaser acknowledges it'

purposes.

(c) Purchaser represents and warrants that the Equipment, Software and Services provided hereunder, and the ""direct product" thereof are intended for civil use only and will not be used, directly or indirectly, for the production of chemical or biological





weapons or of precursor chemicals for such weapons, or for any direct or indirect nuclear end use or any other end use prohibited by Trade Control

(d) Purchaser represents and warrants that: (1) neither Purchaser nor any Purchaser Entity is included on any of the restricted party lists maintained by the U.S. Government, including the Specially Designated Nationals List administered by the U.S. Treasury Department's Office of Foreign Assets Control ("OFAC"), Denied Parties List, Unverified List or Entity List maintained by the U.S. Commerce Department's Bureau of Industry and Security ("BIS"), or the List of Statutorily Debarred Parties maintained by the U.S. State Department's Directorate of Defense Trade Controls, listed, the ITAR §126.1 Restricted Parties List, or the consolidated list of asset freeze targets designated by the United Nations, European Union, and United States or any similar list maintained by the European Union or European member state (collectively "Restricted Parties List"); and (2) no entity or person listed on the Restricted Parties List (or owned directly or indirectly, in whole or in part, by an entity or person on the Restricted Parties List) has any property, financial or other interest in the Equipment, Software or Services, and that the same shall not be transferred, reexported, disclosed to or otherwise provided to an entity or person on the Restricted Parties List. Purchaser shall notify ABB immediately if Purchaser or a Purchaser Entity becomes listed on the Restricted Party List.

(e) Purchaser shall notify ABB immediately upon awareness of any breach or (d) Purchaser represents and warrants that: (1) neither Purchaser nor any

Restricted Party List.

(e) Purchaser shall notify ABB immediately upon awareness of any breach or suspected breach of this Article 19. Any violation of Purchaser's obligations under this Article 19 is a material breach of this Agreement and ABB reserves the right to terminate the Agreement immediately upon written notice for Purchaser's default. Purchaser shall indemnify, defend and hold harmless ABB, its officers, directors, employees, agents, affiliates, successors, and permitted assigns from and against all claims, causes of action, damages, liabilities, and expenses, including attorney's fees arising from Purchaser's breach of this Article 19 and any resulting termination of this Agreement.

(f) If agreed to by the Parties pursuant to a written statement of work or elsewhere in this Agreement, ABB shall file for a U.S. export license, but only after appropriate documentation for the license application has been provided by Purchaser. Purchaser shall furnish such documentation within a reasonable time after purchase order acceptance. Any delay in obtaining such license shall suspend performance of this Agreement by ABB. If an export license is not granted or, if once granted, is thereafter revoked or modified by the appropriate authorities, this Agreement may be canceled by ABB without

license is not granted or, if once granted, is thereafter revoked or modified by the appropriate authorities, this Agreement may be canceled by ABB without liability for damages of any kind resulting from such cancellation. At ABB's request, Purchaser shall provide to ABB a Letter of Assurance and End-User Statement in a form reasonably satisfactory to ABB.

(g) When applicable, the party considered the exporter of the Equipment, Software, Services and/or data, will apply for the export license in compliance with all applicable Trade Control Laws. If ABB is the applicant of the export license, the Purchaser agrees to immediately provide all the necessary information and documentation (i.e. End-User/End-Use Certificate and Letter of Assurance) required to apply for the license. If an export license is denied or revoked, the applicant must notify the other party immediately and this Agreement may be terminated by ABB without liability for damages of any kind resulting from such termination. resulting from such termination.

20. Trade Controls

20. Trade Controls
a) The Parties agree to comply with all applicable sanctions and export control laws in connection with this Agree-ment. Sanctions and export control laws and regulations include any applicable laws, regulations, or administrative or regulatory decisions or guidelines that sanction, prohibit or restrict certain activities including, but not limited to, (i) import, export, re-export, transfer or trans-shipment of goods, services, technology, or software; (ii) financing of, investment in, or direct or indirect transactions or dealings with certain countries, territories, regions, governments, projects, or specifically designated persons or entities, including any future amendments to these provisions; or (iii) any other laws, regulations, administrative or regulatory decisions, or guidelines adopted, maintained, or enforced by any Sanctions Agency on or after the date of the [Individual Order] (collectively, "Trade Control Laws"). "Sanctions Agency" means any governmental or regulatory body, instrumentality, authority, institution, agency or court that promulgates or administers Trade Control Laws including, but not limited to, the aforementioned governmental and regulatory bodies of (i) the United Nations, (ii) the United States of America (including the U.S. Department of Treasury Office of Foreign Assets Control, U.S. Department of State and U.S. Department of Commerce), (iii) the European Union or (iv) Switzerland.

(b) The Parties confirm that they have not violated, shall not violate, and shall not cause the other Party to violate, any applicable Trade Control Laws. Each Party represents and warrants that, to the best of its knowledge, at the date of the [Individual Order] neither it, nor any of their respective directors or officers are a Restricted Person. Each Party agrees that it shall promptly notify the other Party if it becomes a Restricted Person.

"Restricted Person" means any entity or person included on a list (including U.S. and EU lists) of targeted parties, blocked parties, or persons subject to asset-freezing or other restrictions introduced under any applicable Trade Control Laws (and includes any entity that is directly or indirectly owned fifty (50) percent or more, in the aggregate or individually, or otherwise controlled by any Restricted Person).

by any Restricted Person).

(c) If, as a result of Trade Control Laws issued or amended after the date of the [Individual Order], including, but not limited to, (i) the Purchaser or the end-user is/becomes a Restricted Person, or (ii) any necessary export license or authorization from a Sanctions Agency is not granted, the performance by ABB or any of its affiliates becomes illegal or impracticable, ABB shall be entitled to either immediately suspend the performance of the affected obligation under the [Individual Order] until such time as ABB may lawfully discharge such obligation or unilaterally terminate the [Individual Order] in whole or in part. ABB will not be liable to the Purchaser for any costs, expenses or damages associated with such suspension or termination of the [Individual Order].

(d) The Parties undertake to obtain all the necessary licenses and/or permits from the competent authorities for the import or export, re-export, or in-

from the competent authorities for the import or export, re-export, or in-country transfer of Equipment and Services. Equipment and Software, and

incountry transfer of Equipment and Services. Equipment and Software, and the "direct product" thereof, that originate from the United States are subject to the U.S. Export Administration Regulations ("EAR") and must not be exported, re-exported, or transferred (in-country) without obtaining the necessary valid li-censes/authorizations of the competent US authorities. At ABB's request, Purchaser shall provide to ABB a Letter of Assurance and End-User Statement in a form reasonably satisfactory to ABB.

(e) The Purchaser represents and warrants that the Equipment and Services are for civil use only. The Purchaser further represents that it will not directly or indirectly sell, export, re-export, release, transmit or otherwise transfer any items received from ABB to any Restricted Parties, or parties that operate, or whose end use will be, in a jurisdiction/region prohibited by ABB including Belarus, Crimea, Cuba, Iran, North Korea, Russia, Syria, as well as the Donetsk, Luhansk, Kherson, and Zaporizhahia regions of Ukraine (such list may be amended by ABB at any time).

(f) If the Purchaser infringes any obligations in this Trade Controls clause in connection with the [Individual Order], the Purchaser must immediately notify ABB. Failure to comply with these Trade Compliance obligations shall be con-sidered a material breach, and ABB shall have the right to unilaterally terminate the Agreement with immediate effect. Such termination would be without prejudice to all rights of recourse which could be exercised

would be without prejudice to all rights of recourse which could be exercised by ABB, and ABB shall not be liable to Purchaser for any claim, losses or damages whatsoever related to its decision to terminate performance under this provision. Further, Purchaser shall indemnify ABB for all liabilities,

under this provision. Further, Purchaser shall indemnity ABB for all itabilities, damages, costs, or expenses incurred as a result of any such violation, breach and/or termination of the Agreement. ABB may report such violations to relevant authorities as required by applicable Trade Control Laws. (g) For the avoidance of doubt, no provision in this Agreement shall be interpreted or applied in a way that would require any Party to do, or refrain from doing, any act which would constitute a violation of, or result in a loss of economic benefit under, applicable Trade Control Laws.

21. Bribery and Corruption.

(a) Purchaser hereby warrants that it will not, directly or indirectly, and it has no knowledge that other persons will, directly or indirectly, make any payment, gift or other commitment to its customers, to government officials or to agents, directors and employees of Seller or any other party officials or to agents, directors and employees of Seller or any other party in a manner contrary to applicable laws (including but not limited to the Corruption of Foreign Public Officials Act (Canada), the Foreign Corrupt Practices Act (United States) and, where applicable, legislation enacted by member States and signatories implementing the OECD Convention Combating Bribery of Foreign Officials) and shall comply with all relevant laws, regulations, ordinances and rules regarding bribery and corruption. (b) Nothing hereunder shall render Seller liable to reimburse Purchaser for any such consideration given or promised.

(c) Purchaser's material violation of any of the obligations contained in Article 20(a) above may be considered by Seller to be a material breach hereunder and shall entitle Seller to terminate this agreement with immediate effect and without prejudice to any further right or remedies on the part of Seller hereunder or applicable law. Purchaser shall indemnify Seller for all liabilities, damages, costs or expenses incurred as a result of any who highly the party participated by the party participate of the such violation of the above-mentioned obligations and termination of this agreement.

(d) Purchaser understands that Seller's Code of Conduct is available for consultation online at http://www.abb.com/integrity. Purchaser agrees to perform its contractual obligations hereunder with substantially similar standards of ethical behavior as those found in Supplier's Code of Conduct. (e) Seller has established the following reporting channels where Purchaser and its employees may report suspected violations of applicable laws,





policies or standards of conduct: Web portal: www.abb.com/integrity Telephone: number specified on the above Web portal Mail: address specified on the above Web portal

22. Assignment.

Any assignment of this Agreement or of any rights or obligations under the Agreement without prior written consent of ABB shall be void.

23. Nuclear.

Equipment and Services sold hereunder are not intended for use in connection with any nuclear facility or activity, and Purchaser warrants that it shall not use or permit others to use Equipment or Services for such purposes, without the advance written consent of ABB. If, in breach of this, any such use occurs, ABB (and its parent, affiliates, suppliers and subcontractors) disclaims all liability for any nuclear or other damage, injury or contamination, including without limitation any physical damage to a nuclear facility itself, resulting from a nuclear incident and, in addition to any other rights of ABB, Purchaser shall indemnify and hold ABB (and its parent, affiliates, suppliers and subcontractors) harmless against all such liability including, but not limited to, any physical damage to the nuclear facility or surrounding properties, if any. Consent of ABB to any such use, if any, will be conditioned upon additional terms and conditions that ABB determines to be acceptable for protection against nuclear liability including but not limited to the requirement that the Purchaser and/or its end user customer shall have complete insurance protection against liability and property damage including without limitation physical damage to a nuclear facility itself or any surrounding properties; if any, resulting from a nuclear incident and shall indemnify ABB, its subcontractors, suppliers and vendors against all claims resulting from a nuclear incident including, but not limited to, any physical damage to the nuclear facility.

such conditions.

(g) ABB shall promptly notify Purchaser if ABB becomes aware of: (i) conditions at the Site differing materially from those disclosed by Purchaser,

or (ii) previously unknown physical conditions at Site differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Agreement. If any such conditions cause an increase in ABB's cost of, or the time required for, performance of any part of the work under the Agreement, an equitable adjustment in price and schedule shall be made.

(h) If ABB encounters Hazardous Materials in Purchaser's equipment or at the Site that require special handling or disposal, ABB is not obligated to continue work affected by the hazardous conditions. In such an event, Purchaser shall at its sole cost and expense eliminate the hazardous ruichaser shall at its sole cost and experise eliminate the hazardous conditions in accordance with applicable laws and regulations so that ABB's work under the Agreement may safely proceed, and ABB shall be entitled to an equitable adjustment of the price and schedule to compensate for any increase in ABB's cost of, or time required for, performance of any part of the work. Purchaser shall properly store, transport and dispose of all Hazardous Materials introduced, produced or generated in the course of ABB's work at the Site.

the site.

(i) Purchaser shall indemnify ABB for any and all claims, damages, losses, and expenses arising out of or relating to any Hazardous Materials which are or were (i) present in or about Purchaser's equipment or the Site prior to the commencement of ABB's work, (ii) improperly handled or disposed of by Purchaser or Purchaser's employees, agents, contractors or subcontractors, or subcontractors, or subcontractors, and in the property property and pr or (iii) brought, generated, produced or released on Site by parties other than

26. Confidentiality.
a) ABB and Purchaser (as to information disclosed, the "Disclosing Party")

that the Purchaser and/or its end user customer shall have complete insurance protection against liability and properly damage including without limitation and a properly damage including without limitation and nuclear inclored and shall indemnify ABB is subcontractors suppliers and vendors against all claims resulting from a nuclear incident and shall indemnify ABB is subcontractors suppliers and vendors against all claims resulting from a nuclear incident, but not limited to, any physical damage to the nuclear facility.

24. Resale.

15 Purchaser resells any of the Equipment or Services, the sale terms shall limit ABB's liability to the buyer to the same extent that ABB's liability to purchaser is shall require the end-user comply with the financial requirements under Price is limited hereinory. By blacking the end-user comply with the financial requirements under Price is limited hereinory. By blacking the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the properties of the price of the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user comply with the financial requirements under Price and the end-user on the end-user to the benefit of ABB.

25. Environmental, Health and Safety Matters.

26. Confidential information in connection with any nuclear facility or activity, the Purchaser shall be colligated to maintain safe working conditions at its procedures. White the end-user confidential information on the individual procedures with





27. Non-Survival.

The following Articles shall not survive termination or cancellation of this Agreement: 5, 7, 8, 17 and 18. All other Articles shall survive the termination or cancellation of the Agreement.

28. Entire Agreement.

28. Entire Agreement. This Agreement constitutes the entire agreement between ABB and Purchaser. There are no agreements, understandings, restrictions, warranties, or representations between ABB and Purchaser other than those set forth herein or herein provided. As stated in Article 1 of this Agreement, ABB's Proposal, policies, addendum(s), if any, submitted to Purchaser, shall control over any conflicting terms. ABB specifically rejects any exceptions to this Agreement, Proposals, polices, and/or addendum(s) on the face of any purchase order. Purchaser shall advise ABB in writing of all conflicts, errors, omissions, or discrepancies among the Proposal, Policies, Addendum(s) and this Agreement immediately upon discovery. This Agreement shall supersede any standard, preprinted terms and conditions that are automatically attached to purchase orders issued by Purchaser.

29. US Government Contracts.

29. US Government Contracts.

This Article 28 applies only if the Agreement is for the direct or indirect sale, or is funded in whole or in part by, an agency of the U.S. federal government, or a state government, or any other U.S. government instrumentality or political subdivision (collectively "U.S. government entity").

Unless otherwise expressly stated and specifically agreed in ABB's Proposal:
(a) Purchaser agrees that:
(i) all Equipment, Software, and Services provided by ABB meet the definition of "commercial-off-the-shelf" ("COTS") or "commercial product" or "commercial service" or "commercial computer software" as those terms are defined in Federal Acquisition Regulation ("FAR") 2.101.
(ii) ABB technical data and computer software are developed at ABB's private expense and not in performance of the Agreement. ABB retains ownership and proprietary rights in all technical data and computer software provided to Purchaser under the Agreement and under a U.S.Government contract or subcontract. Neither the Purchaser, the U.S.Government nor any higher-tier contractor under a U.S.Government contract will obtain any rights in ABB technical data or computer software beyond the rights provided under ABB's standard commercial licenses consistent with FAR 12.211 and 12.212.
(iii) to the extent the Buy American Act (41 U.S.C. §§ 8301 –8305, as amended), Trade Agreements Act (19 U.S.C. §§ 2501 – 2581, as amended) build America, Buy America (Pub. L. 117-58, December 29, 2022, as amended) or other domestic preference requirements are applicable to this Agreement, the country of origin of Equipment or Software is unknown.
(iv) the version of any applicable FAR clause listed in this Article 28 shall be the one in effect on the effective date of this Agreement.
(b) If Purchaser is an agency of the U.S. Government, then as permitted by FAR 12.302. Purchaser agrees that:

(i) only the clauses identified in FAR 52.212-4 (except those listed in 12.302(b)) are replaced with these Terms and Conditions.

(ii) only the clauses identified in FAR 52.212-5 apply and only to the extent applicable for sale of COTS and/or commercial products and/or commercial products and/or commercial products and/or commercial conditions.

applicable for sale of COTS and/or commercial products and/or commercial services and as appropriate for the purchase order price.

(iii) any Services offered by ABB are exempt from the Service Contract Act of 1965 (41 U.S.C. §§ 6701 - 6707, as amended).

(iv) all other U.S. Government agency contract provisions are rejected.

(c) If Purchaser is procuring as a contractor, or subcontractor at any tier, on behalf of an agency of a U.S. government entity, then Purchaser agrees that:

(i) only the clauses identified in FAR 52:212-5(e)(1) or 52.244-6(c)(1) (whichever is applicable) apply and only to the extent applicable for sale of COTS and/or commercial products and/or services and as appropriate for the purchase order price.

(ii) Purchaser shall notify ABB prior to transmitting any Controlled Unclassified Information ("CUI") to ABB, and only upon written authorization by ABB may Purchaser transmit CUI to ABB. Purchaser shall transmit CUI to ABB in accordance with applicable CUI safeguarding and/or dissemination authority

requirements.

requirements.

(iii) prevailing wage and related public works labor and employment laws or regulations are not applicable to ABB's services offered in the Proposal.

(iv) Purchaser is solely responsible for its obligations to its customer(s), including validating that ABB's Proposal fulfills Purchaser's U.S. Government contracting obligations, if any. To the extent the terms and conditions of Purchaser's customer contract(s) are different from the terms and conditions of this Agreement, Purchaser shall defend, indemnify and hold ABB harmless from and against all losses, liabilities, cost, expense (including attorney's fees and expenses of litigation and/or settlement), damages, allegations, claims, causes of action and judgments resulting from such difference. In no event will Purchaser withhold payment due to ABB for any dispute or liability incurred between Purchaser and its customer(s).

30. Data Protection.(a) The parties agree that the protection of Personal Data is very important. If Purchaser discloses Personal Data to ABB, ABB shall comply with all applicable data protection laws and regulations. Purchaser shall comply with all applicable data protection laws and regulations in respect of any Personal Data it receives from ABB in the course of receiving the Equipment or

(b) The parties agree that neither will withhold or delay its consent to any changes to this clause which are required to be made in order to comply with applicable data protection laws and regulations and/or with guidelines and order from any competent supervisory authority, and their application to the Equipment or Services from time to time, and agrees to implement any such

Equipment or Services from time to time, and agrees to implement any such changes at no additional cost to the other party.

(c) The parties acknowledge that the processing of Personal Data in accordance with this purchase order may require the conclusion of additional data processing agreements or additional data protection agreements. If and to the extent such additional data processing agreements or additional data protection agreements are not initially concluded as part of the purchase order, the parties shall, and shall ensure that their relevant affiliates or subcontractors shall, upon the other's request promptly enter into any such agreement with an affiliate, as designated by the other party and as required by mandatory law or a competent data protection or other competent authority. authority